THE NEW YORK STATE

Conservationist

April—May 1950

From plates courtesy of N. Y. State Museum

STATE OF NEW YORK,
CONSERVATION DEPAPARTMENT

SPRING FEVER

It's April, going into May. Most people of average health, normal reactions, penetrable hides, and reasonably decent dispositions succumb to Spring Fever at this time of year.

The symptoms of course appear long before Spring does. We like to think that we are rarely sucked in by overstatement, but when we get into the seed catalogs on a cold February Sunday and find that we are privileged to buy, if we order early, Carnduff's Giant Delicious Crimson Champion, The Peerless Tomato, Early Bearing, we're in the mood to send for several dozen of this plant. That starts it; by the time Spring actually arrives we've got creditors spotted all over the country and we've been royally sucked in by everything from mail order houses to false starts in the weather. We confidently expect that this condition will recur annually and we'll know that something's wrong if it doesn't.

Spring Fever is brought on by the promise of good things to come. All of these good things come from the outdoors.

But suppose this were the case: Suppose there were no people around to raise trout and put them in the streams; no organization to protect the forests from fire; no people to lay out and maintain campsites, trails and leantos; no men to protect animals and birds and fish from people who don't have the proper respect for them; no men to raise seedling trees, and none to manage grown forests; no men to raise birds and animals, none to study their diseases, none to give them a helping hand in the wild; no soil experts, no men to do erosion and flood control work; no outdoor information and education service.

Suppose it were nobody's job to do this work. Then, if Spring Fever is induced by the promise of good things to come in the physical world, how much of that promise would materialize? And how long would Spring Fever continue to be the only affliction that we can really look forward to?—Editor.

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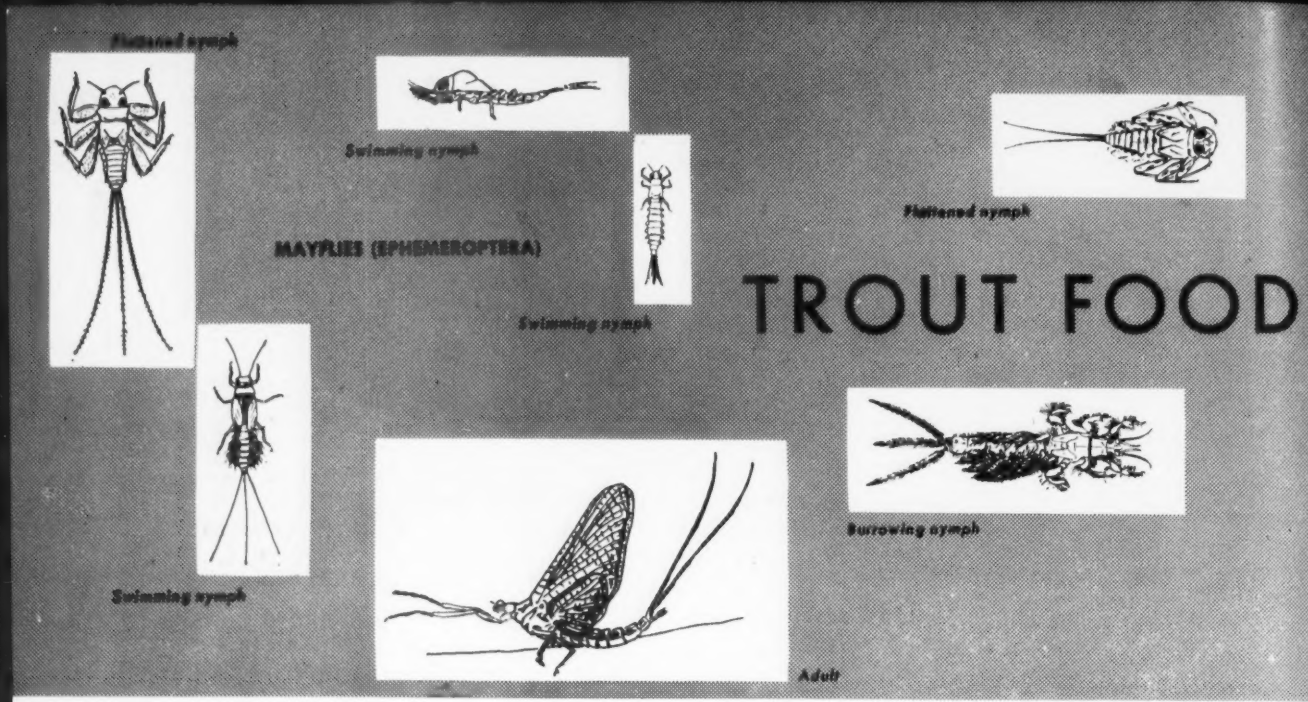


TROUT FOOD

A PALE yellow mayfly suddenly appeared on the surface of the stream. It was nearly in full bloom, exchanging, in the space of less than a minute, a year of life in the riffles for an aerial existence in a different world. Momentarily it fluttered and skipped across the broken surface of the water, as though finding the transition a little uncertain; then it rose and steadily drifted off upstream. Another one or two flies appeared, then ten or a dozen, and soon there were hundreds in evidence. A hatch was on.

Not all of the aquatic counterpart of the fly lived through the emergence period. The nymphs were congregated on favorable sites on the bottom rocks, and in the short space of the hatch they cast loose from their water perch and, current swept, swam sinuously towards the surface. This was the weak link in the life cycle. Heretofore they had been scattered, had remained in the relatively protected seclusion of the under surfaces of rocks. But now they were in the open water, unprotected.

At the start of the hatch, the trout, as well as cousins of less regal bearing, had become alerted. And with the hatch in full swing, they were engrossed in an orgy of feeding. Small fish darted here and there for the floating nymphs. Larger fish, some of them in more favorable lies, fed in a less active fashion, but steadily nevertheless. This was a glut. Several had already taken place this season and several more would follow. The tiny wriggling morsels of food were everywhere in the current, defenseless, food for the taking.

During the winter months when water temperatures usually run near freezing, trout feed little. But the aquatic insects prosper and grow. Some of them browse on the brown and green plant growth that makes the rocks slick and slippery, and in turn, upon them feed the "wolves" of the aquatic underworld. By the time the trout's appetite is whetted and released by warming waters in March or April, the storehouse of the riffles is near bursting with many forms of insect life. Thus, it is possible for trout to start the fattening process so much needed after the lean, hard winter and the hardships of spawning in the fall months that came before.

On most of our northern trout streams, the great bulk of water insects transform into adult flies in the spring months—April through June. So we find that a large share of the growth of stream trout may be made in the spring, when food is more plentiful and ofttimes more easily secured.

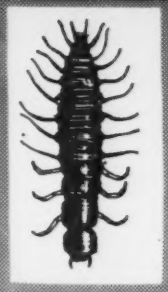
This means that by summer the stream larders are comparatively empty, for the next generation of insects are then very tiny, or perhaps may even be undergoing a delayed development in the eggs. The summer and early fall months therefore find trout turning to more food of terrestrial origin. Nearly all kinds are represented—beetles, ants, leaf-hoppers, plant lice, and a host of others, the predominating ones depending in large measure upon the nature of the vegetation on the bordering terrain as well as upon the season. Heavy winds and rain usually increase this land-born food.

Of the various sorts of aquatic insects commonly eaten by trout, not all are of equal interest to anglers. Because of size, habits or habitat, many do not lend themselves well to simulation by the fly man. There are seven major groups in the insect world represented in stream life: mayflies (*Ephemeroptera*), stoneflies (*plecoptera*), dragon- and damselflies (*Odonata*), caddisflies (*Trichoptera*), fish-flies and alders (*Neuroptera*), two-winged flies (*Diptera*), beetles (*Coleoptera*), and true bugs (*Hemiptera*). Of these, only forms belonging to the first four groups are entirely aquatic in habit, the others having numerous terrestrial species.

FOR the fisherman using the floating fly, one group stands far above the others in interest—mayflies. There are exceptions, of course, and being exceptions, they are usually pretty important considerations during their moments of existence. But day in and day out the hatching mayfly is responsible for most of the surface activity of trout. As far as submerged food is concerned, the underwater forms (called nymph or larvae) of mayflies, caddis and stoneflies usually predominate, possibly in that order of importance on most streams, but species from other groups may influence the general picture seasonally or in certain streams. Size of fish under consideration is also of importance, for among the small

Alderfly larva

Fish fly larva



FISH FLIES & ALDERS (NEUROPTERA)

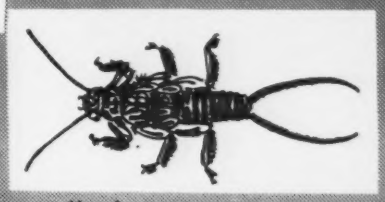
IN STREAMS

Nymph

Adult

STONEFLIES (PLECOPTERA)

Nymph



Nymph

By DWIGHT A. WEBSTER,
Department of Conservation, Cornell

trout, as, indeed, among most diminutive fishes, the larvae or pupae of small two-winged flies are very conspicuous. Many of the other groups occur to a greater or lesser extent in streams but are, in general, of lesser inportance to fishermen and trout alike.

Mayfly nymphs form a conspicuous group in most stream insect societies. All American species are vegetarians, and they, in turn, are preyed upon by the numerous rapacious insects in the community. Most species spend a year in the water developing as nymphs, but a few of the larger ones require two years, while some of the smaller ones pass through several generations in a year. The striking feature of their life history is that the length of their adult or aerial existence is limited to three or four days at best, during which period mating and egg laying takes place.

The nymphs break naturally into three groups. Those with more or less burrowing habits are hairy, and possess conspicuous feathery gills and prominent "tusks". The burrowers are most abundant in slow-moving streams, where soft mud bottom is abundant. One of them, the "Coffin Fly", is well known to trout stream anglers.

A second group is much flattened and lives in the riffles. Here, by virtue of their flattened form moving closely pressed to the rock, they may scuttle over the surface of stones even in swift water with slight chance of being wrenched loose by the current.

The third group is more streamlined in appearance. Many of them are active swimmers, some species living in the eddies or backwaters, others in the broken water of riffles.

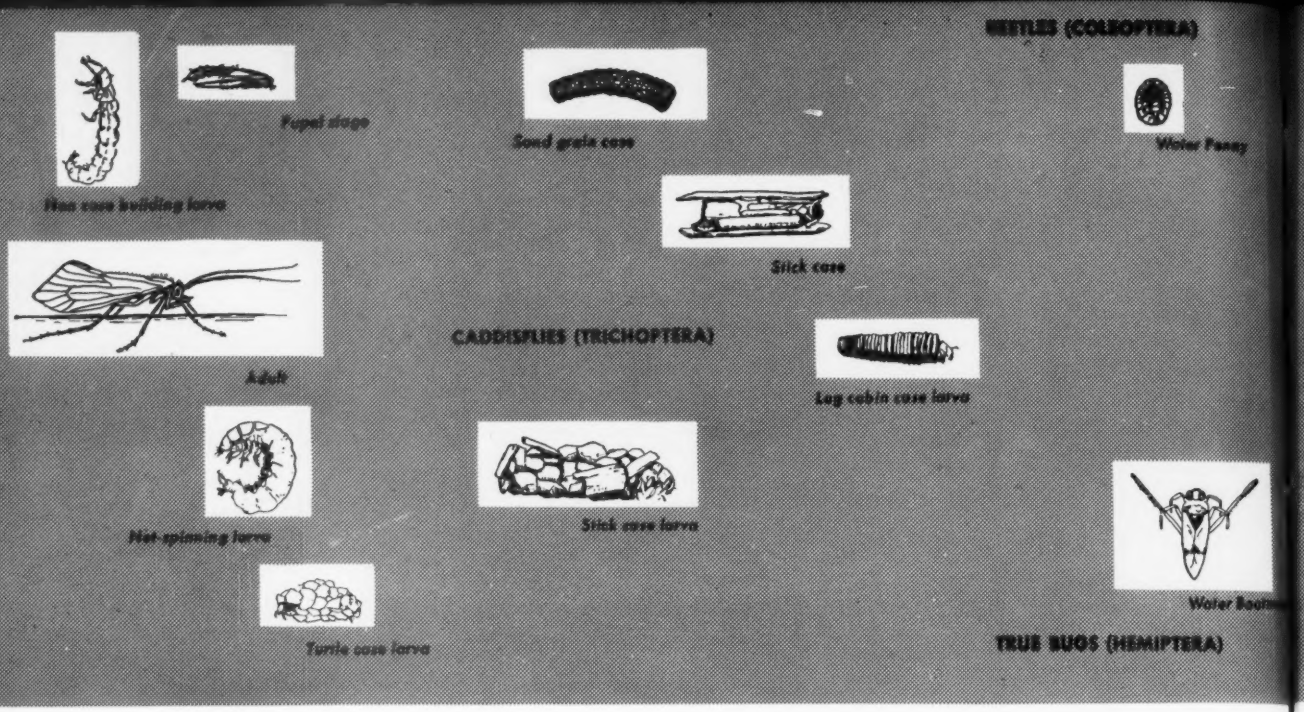
The period during which mayfly nymphs transform into adults is extended, even in a limited area like New York State, ranging for the various species from late March to a few stragglers in October. Notwithstanding this, the group is well named, for May is the mayfly month; add to this the latter part of April and part of June, and under most stream conditions the main hatches will be bracketed.

No doubt the principal reason why hatching mayflies attract so much attention from trout, and consequently from anglers, is tied up in the mechanics of the hatching operation. Most species simply cast off from the bottom, more or less struggle to the surface (though some swim very efficiently) and then ride there until the winged form has popped from the shuck. Even then the fly may tarry, gliding with the current momentarily, or perhaps making several short hesitating flights. All this time the insect is exposed, active and conspicuous, an easy mark for a trout.

The mayfly, as it comes from the water, is called a "dun." This is to distinguish it from the form that appears after a second transformation during which a thin grayish film is shed, which leaves the body glistening and slimy, the wings transparent and the wings and tails elongated. This second transformation produces the "spinner" stage which represents the insect fully formed and capable of mating and egg laying. At no time after leaving the water does the mayfly take food.

After a mating flight, in which great swarms of mayfly "spinners" may participate and in which mating takes place while in flight, the female fly returns to the surface to deposit the eggs. This may be accomplished—depending on the species—by jettisoning the entire egg-mass in flight over the water, or by releasing a few eggs each time the tip of the abdomen touches the water, or even by walking down under the water and plastering the eggs on a stone. This activity, plus that of the dead or dying mayflies which may litter the surface following such a mating flight, gives the trout another chance to feed, and hence is again of direct interest to the angler.

As to stoneflies, a considerable proportion of their life cycle resembles that of the mayfly. The underwater nymphal stage lasts one year in most, two years in a few of the larger species. Unlike mayflies, various species of which thrive in a great variety of water habitats, the stonefly nymphs are for the most part restricted to running waters, and reach their greatest abundance in swift water. A casual examination of the stones removed from any riffle in a New York stream usually discloses some of the strikingly marked black and yellow nymphs of the "perlid" group. Unlike most mayflies, the stonefly nymph when emerging into the winged fly crawls out on the shore or on a protruding rock. Again un-



like the mayflies, they do not return in swarms to mate and deposit eggs.

By virtue of these habits, stonefly adults tend to escape attention from trout. Except for a few pale greenish or yellowish species which anglers sometimes call "willow-flies", and except perhaps the early brown stonefly which appears in March and April, they are of little direct importance to New York fly fishermen. The adult flies live much longer than mayflies and, as opposed to the latter, some species take food, feeding actively on microscopic plants living on tree trunks and elsewhere.

CADDIS flies are a unique and interesting group. They are most conspicuous because of the case building habit of the larvae or "worms" of many species. The cases are of varied design, construction and building materials. Tiny sand grains, small pebbles, twigs, leaves both dead and alive, threads of filamentous algae, or even tiny shells of dead snails, are artfully fashioned into portable houses by these creatures. A silken secretion from the mouth is used to cement the particles together. Trout relish the larvae sufficiently to eat them, cases and all, which accounts in part for the occurrence of small stones and twigs in trout stomachs.

Not all the caddis worms build portable cases, but they are nonetheless interesting for their building activities. Many of them construct delicate nets which strain food material from the current. The larvae may live in a portion of the net, which is sometimes tube- or trumpet-shaped, or in loose assemblage of stones adjacent to the net. Since these nets are built and guyed of tiny silken threads designed to be held open by the current, they collapse when removed from the water.

In general, the net builders and naked caddis are carnivorous, while the case builders are herbivores, browsing largely on the algal slime that covers the rocks and bottom litter. The case builders are conspicuous as they lumber about or inch their cases along. A few species that inhabit the still water of ponds build light, streamlined models which they can "row" through the water with long fringed legs. And in many streams, particularly in the Catskills, "stick-caddis" are abundant in the quiet eddies and backwaters in the spring.

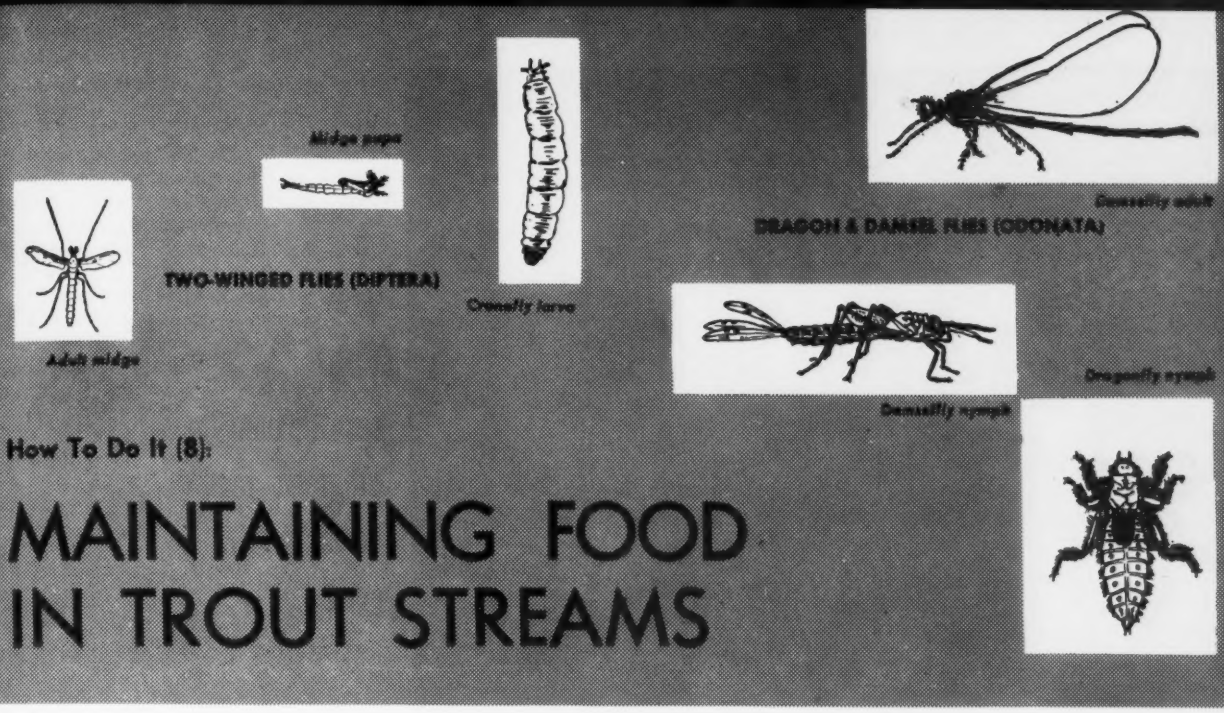
The caddis all pass through another stage of development between larva and adult. When the larvae have reached maturity they cement their houses to the bottom, the non-case builders fashioning various sorts of rough barricades or shelters. After making a parchmentlike covering, a transition occurs in which the larva changes into a "pupa". This takes several weeks. Then the pupa cuts its way free of the case, swims to the surface, the skin splits—and away flies the adult caddis. As with the mayflies, the ascent through the water is a vulnerable period in the life cycle for some species, and is taken advantage of by the trout.

Most caddis have the unfortunate (from our point of view) trait of chosing the dusk or night in which to transform, hence a considerable proportion of the activity attending an emergence is lost to the angler. They are decidedly nocturnal insects, like the moths which they resemble to some extent. A conspicuous exception, however, is the hatch of the "Grannon", which comes off in swarms in mid-day, usually about the middle of May on Catskill streams.

Most caddis adults are somber colored—blackish, brownish, gray or speckled. Some, like the Cannamon Sedge (that comes from the common stick caddis mentioned previously), are an inch or so long, but the majority are a half-inch or less in size.

A fourth group of some interest is comprised of the two-winged flies, including as adults the mosquitoes, punkies, blackflies, and deerflies—to enumerate a few of the water-borne forms which have developed a common taste for the blood of anglers. But in other respects the group is not of much direct interest to the angler, though fairly important from the standpoint of trout food.

WE have attempted to present a few facts concerning some of the major groups of aquatic insects that feed the trout in our streams. Why? Not because a knowledge of trout stream entomology is a guarantee of a heavier creel; it is not. But it does broaden the interest of the angler afield, and it does provide an insight into why trout sometimes act as they do.



How To Do It (8):

MAINTAINING FOOD IN TROUT STREAMS

INFORMATION on the maintenance and improvement of trout streams, *from the food angle*, is not plentiful. The British have attempted to increase the quantity of insects in some of their slow-moving trout streams by making conditions more favorable for the hatching of eggs, or by creating more sites for egg-laying. They have also, from time to time, tried to make artificial introductions of flies with the aim of bringing in desirable species found in other streams or of augmenting the supply of an insect food already present.

In this country, about the only comparable efforts have been in transplants of freshwater crustaceans, of which the Caledonia "shrimp" in Spring Creek, New York, is an example. The results of these transplants have been unpredictable.

Fundamentally, the amount of life a stream can support is related to the soils and rocks forming the drainage area. These supply the basic inorganic nutrients. Theoretically, by increasing the quantities of these nutrients by artificial enrichment, we should be able to increase the food. A few observations exist which indicate that under the proper conditions this may be accomplished, but the practicability has not been established. The problem is, after all, quite different from pond fertilization, which can be done successfully because it treats a more or less closed circulation. A basic nutrient, to achieve maximum usefulness, has to be continuously available—as would result from the leaching action in soils. Inadvertently, many of our streams are thus artificially enriched in areas of intensive agriculture or by seepage from barnyards. Perhaps we may eventually be in a position to recommend keeping bags of 5-10-5 lying around in or near the headwaters of some streams.

A little pollution—of the right kind—may be beneficial under some conditions, but far more often pollution is detrimental to trout stream foods and must be prevented or remedied. Most of our aquatic insects are rather sensitive to pollution, either because the pollutant is in itself intolerable, or because it affects their food supply or some other environmental condition.

A "natural" pollutant to many streams under present-day conditions is silt and excessive erosion. Its cause and devastating effect are too well known to need further amplification here. Its cure is seldom simple or rapid (as the sealing off of an exposed vein of clay sometimes is), and the solution is one of wise land-use practices, of reforestation, of replanting stream banks.

The use of willows and other shrubs to check and reclaim eroding stream banks is a well established practice, and it is one which sportsmen's groups in general can profitably explore as club projects. Aside from increased shade and bank stability, one may also speculate on the increased availability of terrestrial fish food which will be forthcoming from the overhanging foliage.

One environmental factor that does untold damage in many streams is ice. If you have ever watched ice going out of a stream, pounding and grinding on the riffles, you may have reflected on what happens to the life on the bottom. In some stream-types the loss in insect life is tremendous. Stones that were slick with brownish algae wind up well scrubbed by ice and moving sand and rock. Fortunately stream plant life has remarkable regenerative powers, and in a matter of weeks the rocks again support the "browse" utilized by much of underwater life. But any stream improvement work that will minimize the original loss is certainly worthwhile.

Perhaps one of the biggest losses of potential trout is the food going down the gullets of other fishes—competitors. Fish like the fallfish ("Beaver-kill tarpon"), large suckers, smallmouth bass in trout waters, horned dace, and perhaps many of the other minnows, fall in this category. What they eat, the trout can't. That trout may in turn eat the small competitors is common knowledge, of course, but evidence is accumulating that trout are much better off by themselves in ponds and probably also in many streams.

ALL in all, many of the factors that affect stream insect life are not conducive to manipulation. But some are. One generalization that one may put forth is that if the stream is kept healthy and happy, the insects and other aquatic life take care of themselves.

—DWIGHT A. WEBSTER

Use of electric shocker to check survival of stocked trout

Fish resettlement program: good homes make good fish

STOCKING FOR PRODUCTION

A SUCCESSFUL budget, be it for the family, business or public agency, cuts out enough of the tempting but wasteful items to leave adequate funds for necessities. Planning for fish stocking is essentially like preparing a budget. *If we refrain from stocking unsuitable, self-maintaining and unproductive waters* we shall have enough fish for our real needs, or at least shall approach that ideal condition. In early years little progress was made in this direction.

The simplicity of fertilizing and hatching fish eggs, thus obtaining thousands of young from a single pair of adults, was an extremely exhilarating idea to anglers and conservation administrators as well as to early fish culturists. This enthusiasm generated or accompanied two or three widely held ideas which have since proved to be more or less fallacious. It was assumed that Nature could not possibly be as efficient as man in the hatching and rearing of fish; and it was also assumed, at first, that young fish of any species would live almost anywhere, in almost any quantity. These two ideas led to a third which proved to be not only mistaken but extremely destructive. This was the idea that all kinds of fish, especially game fish, should be stocked as soon as possible in all waters.

The awakening was gradual, but some fishermen were early impressed by the fact that heavy plantings failed to improve fishing in some waters and sometimes even made it worse. Thought provoking, also, were the situations where brook trout were stocked and browns caught; or, where smallmouth bass were planted and largemouth furnished the fishing. Even more disturbing were the trout waters taken over by perch, bass and pickerel.

It took time for the few pioneers who noticed these things to "leaven" the mass of people interested in improving fishing sufficiently so that, under our democratic process, something was done about it in New York. In April, 1926, however, the Legislature appropriated $15,000 to initiate surveys "to determine the most practical methods of increasing fish production." Wisely, the purpose stated was broader than simply the establishment of a stocking policy, although that was one of the important implicit objectives. The series of 14 "Biological Surveys" thus begun has given us a record of physical, chemical and biological conditions pertinent to fish production for most of our streams and lakes of any real importance.

Lest this give the smug impression that fish management "know how" was all tied up and delivered by these surveys in a neat beribboned package, disclaimer of any such idea is in order. Persons closely identified with the surveys have perceived perhaps more acutely than others the limitations, as well as the advantages, of a photographic or "cross-section" study of this type. It was a long forward step, but it was only a first step toward getting all the needed answers.

Progress was accomplished, specifically, by:

1. Helping prevent further introductions of harmful species of fish. This was done directly by recommending suitable species to be consistently encouraged, and indirectly by calling attention to the extensive damage already done by ill-advised plantings in early years.
2. Saving stock by utilizing our tremendous *natural* hatcheries. Previously

many waters having adequate supplies of naturally produced young were stocked with additional hatchery fry or fingerlings. This is not only wasteful but it actively harms fishing by causing slow growth and lower yields to the fisherman.

3. Increasing the efficiency of trout stocking by adapting the species, numbers and sizes of fish stocked to the environmental characteristics of individual waters.
4. Enabling hatchery personnel, by virtue of the relatively well stabilized stocking program, to plan production with more confidence and in greater detail.
5. Providing a basis for simplified distribution procedures. In this connection, the great advance was escape from dependence upon the inefficient application system. Under present conditions, information from fishermen or from any other source is welcomed and fully considered. But the fish are allocated to the waters themselves according to listed recommendations, and any convenient, effective agency is used for the planting.

To meet the need for continuous contact with changing environments, for progress with basic problems and for closer contact with fishermen and their problems, our fisheries district organization has been developed.

THE foregoing has, perhaps, given some indication of what we mean by stocking for production. More specifically, our objective is to plan stocking to utilize the productive capacities of our natural waters as fully as possible. New York's extensive water resources (about 900,000 acres of inland lakes and streams) allow, in fact practically demand, this type of planning.

As has been stated many times elsewhere, fish management, to be efficient, must be carried out on the basis of individual waters. Further, stocking recommendations vary greatly according to whether they are for warm-water, non-trout species or for salmonids and their relatives.

The warm-water species are much more tolerant than trout and other cold-water fish, especially with respect to spawning requirements. For example, perch, sunfish, bullheads, calico bass, pickerel or northern pike and either largemouth or smallmouth bass will find tolerable spawning conditions in almost any lake. It follows that stocking young fish of these species is seldom helpful and may often be harmful. Rearing these species artificially, even to fingerling size, is difficult because of the predatory nature of most of them. The general success of these species, and the tremendous extent of area inhabited by them also tends to make extensive culture of them impractical. In general, fisheries men are agreed that stocking is a poor tool for helping these species. Other management methods, especially regulation and population control, hold more promise.

The pikeperch, however, requires individual consideration, for this species is rather specific in its spawning requirements. Typically, walleyes require gravel bottom streams for spawning though they do produce young successfully on gravel shoals of large lakes. Artificial hatching of pikeperch eggs is done efficiently on a large scale and fry stocking is carried on in many lakes where populations could not be maintained otherwise.

It should be emphasized that stocking of walleyes and other warm-water species is sometimes done more to achieve a favorable balance for good production than to furnish fishing for the species stocked. From extensive fish census work, studies by electric shocker, fish eradication and so on, the prevalence of poorly balanced waters has been abundantly demonstrated. The commonest limitation is crowding and slow growth of small fish, due to scarcity of the larger, predatory game fish. When the balance can be improved, by stocking or otherwise, it leads to all around improvement of fishing.

Regarding trout stocking, several features have favored development of it to its present highly successful status. Trout species have comparatively specific spawning requirements, so that lack of young is often limiting; they lend themselves comparatively well to cultural operations; trout waters are limited enough so they can be supplied with significant numbers of fish; and trout, of course, are in heavy demand. The basic factors affecting trout stocking, however, are essentially the same as those affecting warm-water species except for one thing: trout can be reared to legal or larger size practically, though expensively, in hatcheries. Actually, trout yearlings average something less than seven inches, but these yearlings and older fish are the "legal trout" that babies cry for and strong men do everything but commit mayhem for, and maybe even that at times.

In theory, legal trout should be the answer to a fish man's prayer. If stocked at six inches or larger, trout avoid many of the dangers from predators and competitors that smaller trout are subject to. Further, such trout can replace almost directly the fish caught by anglers and, obviously, without the stream having to rear them. This to a large extent emancipates the fish manager from consideration of rearing capacities and even, to some extent, of carrying capacities. Within reasonable limits it becomes possible, seemingly, to compensate for the heavy fishing pressure on many of our trout waters simply by planting legal trout.

Unfortunately, evidence accumulating in recent years indicates that such theories are not completely valid. It is clear that a good deal more research both in fish culture and wild water management is needed before best use can be made of these sizes of trout. Perhaps most serious are the investigations here and in other states indicating that hatchery reared "legal" trout are comparatively short-lived in wild waters. If not taken by anglers within a month or two after planting, chances of recovery are much reduced; with few exceptions survival beyond the first winter appears to be negligible. Of course, a short life-span lowers the average rate of return and raises the cost of these fish to the angler. Further, it is obvious that "one season" trout are not going to furnish the big fish that are meat (and drink) to most trout fishermen.

DISCUSSION of legal sized trout should not obscure the fact that by far the most extensive stocking, numerically, is with fingerlings. Experiments with marked fingerlings, for example, in the Wiscoy and in Stillwater Pond, Putnam County, have demonstrated the success of small trout in suitable waters. Efficiency of such stocking can be very high because of low cost of hatchery production and high rate of return, by weight, to the angler. Also, when these trout reach angling size they are practically wild.

Fish managers encounter repeated reminders that good hatchery production and good planning for use of the fish do not include the final step in successful fish stocking. It is necessary to get the fish from the hatchery to the right stream or lake, reasonably well scattered and well placed. Special effort to widen this bottleneck to better fishing is being expended right now.

Anyone who has planted trout knows how beautiful, how hope inspiring are big trout, or even little trout, as they are stocked. This sometimes obscures the hard fact that the true quality of trout water—the pay-off—is measured by fish actually caught. Our objective, whether attained by stocking or by other methods, is the highest possible sustained yield.

—C. W. GREENE,
Senior Aquatic Biologist

The leaf pattern

GINSENG

flora

IN the year 1711 Father Joseph-Francois Lafitau, a Jesuit missionary among the Iroquois in Canada, received a letter from his friend and compatriot, Father Jartoux, a missionary among the Chinese in China. In his letter Father Jartoux described in great detail a certain plant, to the root of which the Chinese attributed an almost magic power. Could such a plant be found in Canada? If so, the good Father pointed out, there was money to be made; the Chinese would pay almost anything for it.

In subsequent writings Father Jartoux explained why it was that the Chinese regarded this plant so highly: "They affirm that it is a sovereign remedy for all weaknesses occasioned by excessive fatigues either of body or mind; that it dissolves pituitous humors; that it cures weakness of the lungs and the pleurisy; that it stops vomitings; that it strengthens the stomach and helps the appetite; that it disperses fumes and vapors; that it fortifies the breast, and is a remedy for short and weak breathing; that it strengthens the vital spirits, and increases lymph in the blood; in short, that it is good against dizziness of the head and dimness of sight, and that it prolongs life in old age."

The medical profession in this country has consistently held, and proved to its own satisfaction, that ginseng (*Panax quinquefolium*) does none of these things; that it has no medicinal properties whatsoever. To this opinion the Chinese have remained totally indifferent for centuries; it appears that they have their own doctors, and further, that they know what they want when they want it, and what they will pay for it. For many centuries they have wanted ginseng roots. Upon occasion they have paid $400 an ounce for them.

The highest prices have always been paid for roots approximating the shape of a man. Ginseng, in fact, means *man-shaped*; panax means *panacea*, or *cure-all*. Those who have read Sir James Frazer or other writers on mythology will recall the mandrake, another man-shaped root, to which Mediterranean people ascribed magic properties and which, when pulled from the ground, sometimes screamed in agony. In that strange and so far unexplained phenomenon of parallel myths existing among peoples never known to have been connected, ginseng and mandrake are essentially the same. But the mandrake myth is dead; the ginseng myth, on the other hand, has been borne along in the deep, steady undercurrent of Chinese civilization which seems to persist in spite of all countercurrents on the surface. Last year the choicest ginseng roots, man-shaped, brought $58 a pound.

Ginseng grows wild in Manchuria. It was this that led Father Jartoux to suspect that it might also be found by Father Lafitau near Montreal, where latitude and climate are much the same as in Manchuria. But Father Jartoux no doubt had another reason for pressing his point; he knew that wild ginseng found in such a climate commanded the very highest price on the Chinese market, and he went to some length in explaining why, and how, the Emperor had a monopoly on it:

"The places where the ginseng grows are on every side separated from the province of Quantong by a barrier of wooden stakes which encompasses the whole province, and about which guards continually patrol to hinder the Chinese from going out and looking after this root. Yet howsoever vigilant, their greediness after gain incites the Chinese to lurk about privately in these deserts, sometimes to the number of two or three thousand, at the hazard of losing their liberty and all the fruit of their labors if they are taken."

In a later account, Father Jartoux further clarified what it was the Chinese stood to lose if they got caught swiping ginseng from the Emperor's preserve: their heads.

BACK in Montreal, Father Lafitau was impressed with the advantages to be had from discovering a plant so highly esteemed, and he set the Iroquois to looking for it. They found it. Thereupon began one of the biggest international businesses ever based (as the French thought) upon a mere heathen superstition. Yet it was this underestimation of their customers—or overestimation of the customers' gullibility—that brought the trade to an abrupt end. In the year 1752 the Compagnie des Indes dispatched a large shipment of inferior roots, apparently feeling that since the demand was

Root, flower and fruit

the magic root

so great such stuff would get by. The Chinese, however, refused the entire lot. Not only that, but they would have nothing further to do with Canadian ginseng.

Two years before this debacle the plant was discovered in central New York, then in other parts of the State. Its present range extends as far south as Georgia and Arkansas and as far west as Iowa, but New York roots, both wild and cultivated, have consistently brought the best prices. This has meant, among other things, that at several times wild ginseng has been considered on the verge of extinction in this State. We say considered, because ginseng hunters who discover a bed are just as secretive and tricky about it as the Chinese ever were; they approach the beds by devious routes, often at night, and cover their tracks as carefully as possible.

IF it weren't for the insatiable appetite of the Chinese and our trader's instinct to capitalize on it, no doubt *panax quinquefolium* would be fairly common in New York. We have plenty of the sort of ground it likes to grow in: a shady hardwood forest, with cool, deep, moist (but well drained) soil. Under such conditions the plant reaches maturity in about five years, and then continues to live for perhaps another 30 or 40. The root we mentioned as having brought $400 an ounce was claimed to be 200 years old, but it should be pointed out that it was the Emperor of China who grew this root—and he did his own advertising. The fact is that the age of a root can be determined by counting the number of leaf scars at the top of it, since the stems, dying down, leave such a scar each autumn. The oldest root we can find any record of, His Imperial Majesty notwithstanding, had 65 leaf scars.

The plant, about 15 inches high when mature, is best described by the accompanying drawings. The flowers, appearing in midsummer in this State, form a tight, greenish-yellow cluster on a stalk about four inches long, and are quite inconspicuous. Not so the fruit. This is a cluster of berries green in late summer but a brilliant scarlet by the middle of September. Each berry contains two or three seeds.

Here is the weak link in the life cycle of the ginseng. The plant reproduces through seeds alone, but because of the conspicuousness of the plant in its fruiting stage most ginseng hunting has been done, and most roots pulled, before the seeds mature and drop off. This circumstance led the State of Virginia, in 1875, to declare a close season on ginseng to protect it during this stage. The Province of Ontario followed suit.

The Chinese appear to consider that the autumn is the only suitable time to dig the roots. (It was a summer-dug batch that the French tried to foist off on them with such disastrous results.) One reason for this is that the roots are in better condition at this time of year, more potent; another is that they shrink less and lose less weight. Even so, we have record of a splendid, fall-dug, 28-year-old-root that weighed 12 ounces when it came out of the ground, and only three after the elaborate process of curing and drying. Such a loss is considered normal, percentagewise.

Wild roots bring the best prices, the reason being that they usually attain more fantastic shapes than cultivated ones and so are in greater demand among the Chinese. But ginseng has been cultivated for centuries. Most of the Emperors had extensive beds, protected from the sun by bamboo mats and from the Emperor's subjects by guards sitting in towers day and night. In this country, one of the first and most successful cultivators was George Stanton, who had extensive flats and did a lot of experimenting out in Summit Station, New York. He grew plants from seed, and also from wild roots that he transplanted.

THE ginseng business is as good now as it has been any time since the war. Our authority for this is trapper and ginseng hunter Ed Maunton, a Department man, who says that the market is steady at between $12 and $14 a pound, with exporting houses and fur buyers taking all they can get of it.

"God knows what the Chinese pay for it when it gets to China," he says. "They're crazy for it, you know."

—P. W. FOSBURGH

IT AIN'T NEC

TO be a Game Protector, the book says, you must be at least 5' 9" tall and weigh 160 lbs. or more. What the book doesn't say is that you should also be a confirmed skeptic, for your meat of outdoor living will be strongly spiced with some wild and highly improbable tales.

Reading through some of the famous excuses furnished by our obliging law enforcement men, one thing becomes immediately apparent: when caught right in the act, the offender feels it is up to him to give some reason for his game law violation; this needn't be logical, as long as it is given immediately.

To illustrate, leave us open Protector Maurice O'Brien's funny book. And there we see a man standing in the middle of a stream. The hour is midnight. He has a 10-gauge pumpgun in one hand and two very large great northern pike in the other.

"What are you doing?" challenges O'Brien.

"Hunting woodchucks!" retorts the pike-shooter without hesitation.

Another quick thinker is reported by Protector Prue who was walking down an old stone wall just after the partridge season had closed. A grouse flushed among the autumn leaves, and crumpled in a cloud of feathers as a 12-bore boomed out just across the wall.

"Thought it was a rabbit!" cried the shooter in a burst of inspiration, thus attaining the dubious distinction of being the first man to kill a hare on the wing.

The men can't claim all the honors for improvising excuses, though, or so claims Protector Lindner who asked a certain lady for her license. She surrendered it and Lindner noticed at once that the description was of a much older woman. Evidently the license had been borrowed. The last name, he noted, looked like a hooper-dooper to pronounce. In fact, it looked very much like Hooperdooper. Palming the permit, Lindner politely asked the lady her name.

"Oh, it's right there on the license."

"Yes, but you tell me what it is, please."

"Oh! I've forgotten!" she gulped. Then, smiling weakly: "You see, I've only been married two weeks and I don't remember my new name yet."

Not only the memory but also the presence of mind is lost on occasion, maintains Protector Preston who was searching a deep freezer one night in the presence of quite a crowd. In burst a neighbor from next door.

"Where have you been to miss all the excitement?" asked one spectator.

"I've been busy same as you are," gasped the breathless arrival, in his excitement not noticing Preston. "I heard the Game Wardens were searching deep freezers so I rushed home from work to empty mine. I got to throwin' meat out the back window so fast the first thing I knew I was clean down through the pork chops."

We look with respect at one case from former Protector Art Towne's files:

"Honest, Judge, it was like this: my wife is going to have a baby and she has this terrible craving for fish. Not just any kind of fish will do either, Judge, only brook trout. She's just gotta have 'em, Judge. And that's how I happened to be standing out on that beaver dam with a basket full of brookies the day before the season opened. She just couldn't wait . . ."

Another fisherman beamingly reported to Protectors Welton and Steenrod, "I'm not fishing, Officer. You see, I bought these lures to use down in Florida next winter and I'm only trying them out in this lake to see if the action is lifelike."

Also showing promise in the originality field was a gent checked by Protector O'Brien up on Waterport Dam. He had 14 bass. Mr. O'Brien explained that the limit was six bass, not 14. Coming up with some really fast mental arithmetic, the fisherman explained that he had just had a strike. Just that minute before. And he pulled up, and what do you think he had on? That's right, a stringer with eight bass on it.

QUITE a catch, but just a snack for the boys Ted Strang intercepted with an illegal seine and 60 pounds of fish. "Aw, we didn't mean any harm," one of the culprits dug his toe in the dust. "Shucks. All we wanted was a few for breakfast."

These quickies are pretty good, but where you really get into style is after the defendants have had a long ride to court, with plenty of time along the way for elaboration and collusion. If

ESSARILY SO

Maybe you think you've heard everything
Maybe, if you're a Game Protector, you have

you don't think so, let us open the curtain on a musty little courtroom. Through the flyspecked window can be seen the lower Hudson valley. Characters are one Game Protector, one fairly sleepy judge, and two rather eloquent gentlemen of foreign extraction, just apprehended afield with two expensive shotguns, a good-looking well-trained beagle, eleven freshly-killed rabbits, plus a large and healthy ferret (tst,tst!) in a beautiful home-carved box replete with brass fittings. One of the gentlemen appears to be the spokesman.

Spokesman: "I tell you the truth, Judge. I don't tell no lie. Today we are in the field and we are have good luck, and all of a sudden the little dog start to bark and scratch at a little pile of rocks. I say to my brud must be someting there, and we pull away the rocks and Judge there was the ferret."

Judge: (more wakeful in the presence of something possibly a little original): "Where did you get the box the ferret was in, or do you always carry a box like that in case you find a ferret?"

Spokesman: "Judge, the ferret was in the box."

Judge (by now fully awake): "Well, if the ferret was in the box and you knew it was someone else's property, why did you take it?"

Spokesman: "Judge, down by the river in the Bronx next door where we live, is livery stable. And all nights long the horse shesa go Bong Bong Bong with da foots. I say to da man whatsa da mat the dam horse shes maka so much noise wid da foots? He say don't you know? The rats come up and eata the hoofs of the horse all night and thatsa the reason they stampa the foots. So Judge, today when we finda da ferret I say to my brud letsa taka da ferret home so we can giva to da man so da poor horse she getsa some sleep."

Judge (with genuine admiration): "$52.50 each. Case dismissed."

Yes, if you ever get to be a Game Protector, you'll hear some funny excuses.

"I knew the gun in the car was loaded. But it was only loaded for vermin and I have a wife and four kids."

"I'm not hunting. I just brought the gun along for company."

"I'm just holding the pole for a friend."

"Oh . . . so this is a *hen* pheasant."

You'll get used to reading letters like this one to Protector Moranda:

Mr. Geme Order

I cant come mit you at once for the compromise oing to the reson YOu told me thes mus be setl at once and all in cash. Mabe Mr. Geme Order you no here of the grate biznes depreshun. I inten settl these but i esk you dont go esking me no two dam big amount you no is no possible to rase. plese encased find my ambedope and i hoping a resnble reply.

You'll find an 89-year-old woman and her 91-year-old husband sitting on a streambank in the sunshine with two bass that might stand measuring. You won't wait for an excuse. And you won't measure them. You'll just smile and say good afternoon and keep right on going.

You'll hear some defendants plead innocent and some plead guilty. You'll hear good excuses and bad, sad and funny, hackneyed and original. But it's doubtful you'll ever hear anything to beat the tale Merrill Callaghan sent in about a man in Phoenix this year. Arraigned on a charge of shooting pheasants out of season, the defendant set what seems to us to be an all-time high for originality in making up excuses for game-law violations. He plumbed the depths and gave his all. He pleaded insanity.

—J. D. Bulger

By Henry Reppa

Long Island State Park Commission

seashore planting

Keeping the seashore where it belongs is quite a problem Japanese black pine (above) and bearberry (right) help do the job

THE problem of establishing a vegetative cover along exposed ocean fronts is one which has challenged man's ingenuity at one time or another on almost every continent. Here in New York, a problem of this kind presented itself some 20 years ago in the development of Jones Beach and Ocean Boulevard on Long Island. The story of the solution of this particular problem is of interest in itself; but it may also be helpful to readers who are confronted with problems of a like nature elsewhere.

The job mentioned above was not merely one of mechanical stabilization of the shifting sand dunes and steep banks, but to provide a naturalistic landscape setting consistent with the maritime character of the parks. The sand dunes along the shorefront of Long Island average 10 to 15 feet in height, with some as high as 40 feet, and the native vegetation found on the dunes is the ever present beach grass, beach pea, and goldenrod. On the ocean slope of the dunes are found dusty miller and sandwort. At one place east of Point O' Woods in Suffolk County, known as the Sunken Forest, the barrier beach is no wider than 2,000 feet from ocean to bay, and trees such as oak, swamp maple, pepperidge, sassafras, holly and pitch pine are found growing to heights of 30 feet. This of course is an extremely unusual condition. In the Sunken Forest, which is about a mile and a half long, can be found bogs of wild cranberry and other fresh water bogs that support ferns and mosses and provide a source of fresh water for migratory shore birds. Some of the vegetation in this section of the barrier beach is so densely tangled with cat brier, wild grape, Virginia creeper and poison ivy that it is necessary to hack one's way through in order to finally reach the bay shore. The overhead shade is so complete that in many places in the Sunken Forest the sun does not filter through to the forest floor. Here, also, it is so still that the roar of the ocean seems to be far away.

But the vegetative cover in this small section is simply an example of what is possible; it is far from typical. Jones Beach, located on the barrier beach in Nassau County, was formerly composed of typical dunes on the ocean front with salt marsh adjacent to the bay. When the development of the Beach was started, millions of cubic yards of bay bottom were pumped in on the salt marshes in order to raise the elevation of the entire area above the level of the highest storm tides. Then began the job of beach grass planting in order to prevent the same windblown sand from being carried away by strong gales. Suitable plants were dug from the back of the dunes and divided into small clumps or "sets" having five or

six stems which were planted from 15 to 18 inches apart over the entire "pumped-in" area. Over a period of 20 years the Long Island State Park Commission has stabilized more than 2,500 acres of beach sand at Jones Beach and at Fire Island and Hither Hills State parks.

As it requires approximately 25,000 plants to cover an acre, this process has taken a number of years. In the early days planting was done by hand, but as it assumed larger proportions machines modeled after cauliflower and tobacco planting-machines were soon developed and expanded to plant six rows instead of one.

In order to avoid a mechanical appearance of the machine-planted areas, the propagation of seashore plants was started. The seeds of goldenrod and beach pea "thumbed rides" on the beach grass plants and within two or three years these species became established in the newly developed areas. But it was necessary to introduce woody plants. This was done by collecting bayberry and planting clumps in strategic places in order to have them reproduce naturally.

An important volunteer was the "Seaside Poverty Grass." This type is indigenous and quickly spreads by windblown seeds. It is a species that is valued much more highly than its upland relative, the broom sedge, and it presents a beautiful sight in the late fall with its silvery plumes on purplish stems comprising a well-formed and symmetrical plant. Other plants were propagated in the nursery and were reintroduced. These included beach plum, swamp holly, winterberry holly, Christmas holly, bayberry, bearberry and red cedar, together with a few exotics which have proven eminently successful in their new environment. Outstanding among these latter are the Japanese black pine and the Russian olive.

In the propagation of native trees and shrubs many obstacles were found and most were surmounted. A chief obstacle was the lack of precedent in propagation methods, which is explained by the fact that these native plants were always here and it was never found necessary to grow such common plants as bayberry, holly, and bearberry from seeds or cuttings. Holly takes from two to three years to germinate from seed and then develops only in very small quantities. Bearberry has much the same record as holly, and bayberry did not germinate at all until many trials and errors had been made.

Bayberry seeds were collected by the bushel and the waxy coating was removed by passing the berries through an ordinary household vacuum cleaner. The clean berries were then subjected to various degrees of stratification at low temperatures, both under controlled conditions in household refrigerators and in outdoor cold storage. The results were the same—no germination. Then the seeds were treated with various chemicals in order to soften the woody shell, but still with the same disappointing results. Finally C. J. MacGregor, horticulturist in charge of the Long Island State Park nursery at Heckscher State Park, hit upon the idea of scarifying the woody shell by mechanical means. He built a shallow smooth concrete trough about three feet square in a greenhouse bench, and after removing the waxy covering of the berries he placed them in the concrete trough and rubbed off parts of the shell with a common building brick. He then passed them through a sieve with holes of a size that would pass only seed that had the wooden shell ground down small enough so that moisture would penetrate the shell upon planting outdoors. Berries that did not pass through this sieve were subjected to further scarification.

THIS method proved successful. But the holly and bearberry defied ordinary known propagating methods, resulting year after year in low germination or cutting strikes until, quite recently, the synthetic hormone propagating mediums came into general use.

We mentioned above that a few exotics have been introduced successfully. In this category, Japanese black pine (*Pinus thunbergii*) has proven a most useful and satisfactory subject. About the turn of the century travelers from eastern Long Island and Nantucket observed tall pine trees growing along the coasts of Japan, and they brought seeds back to their homeland. Scientists confirmed their observations that the climate along this section of the North American coast is almost exactly the same as along the seacoast of Japan at the same latitude. The seed germinated readily and plantings were made in a small way on Nantucket Island and also on Long Island at North Haven (opposite Sag Harbor).

The one thing about the Japanese black pine which makes it different from other conifers is its tolerance of salt water, whether in the form of spray, fog, or even temporary inundation. It has been stated on good authority by plant explorers that trees can be found on the coast of Japan growing in situations where the trunks are covered to a height of three feet by flood tides!

Experience with the tree here in America has certainly been successful. Through Basset Jones of New York and Nantucket, whose father introduced the tree on Nantucket Island and who began propagating seedlings in quantity during the 1920's, seed was obtained by the Conservation Department in New York, and about 1930, test plantings were made on Long Island. The trials proved successful and since then over 100,000 bare-root seedlings have been planted in naturalistic groups not only on Jones Beach but along the ocean front at Fire Island, Hither Hills and Montauk Point State parks; at Orient, Sunken Meadow and Wildwood State parks on Long Island Sound, and at Heckscher State Park along the Great South Bay.

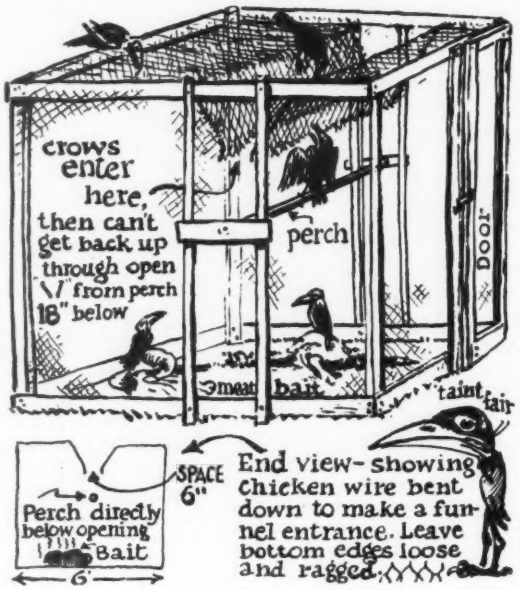
The plantings made at Wildwood State Park are to me the most interesting, as they are growing successfully under the most severe conditions. Two and three-year-old bare-root seedlings were planted on the steep bluffs of the North Shore and are subjected to harsh north winds coming across 20 miles of Long Island Sound. Even the 1938 hurricane, which rolled a sizable portion of the Atlantic Ocean over the barrier beaches on to the south shore, failed to leave any marks on the Japanese black pine, although practically all other conifers subjected to this treatment died.

Russian olive (*Elaeagnus unbellata*) is another exotic which is making a successful growth in its new environment. This plant is related to the common privet and is just as easily propagated and handled. Propagation is by seeds or cuttings. This plant has a green-gray leaf which fits in very well with other seashore colors, and in the fall it is so heavily fruited with red or amber colored berries that the branches sometimes break under the weight of the fruit. Migratory and winter birds find the fruit to their liking—and thereby serve to spread the plant to new locations.

ALTOGETHER, the job of seashore planting, though beset with difficulties and occasional discouragements, is a fascinating project, combining as it does the research methods of the plant scientist with the arts of the horticulturist, landscape designer and engineer. Those of us who have watched Jones Beach, Montauk, Wildwood, and other sections develop from barren, windswept shores to attractive centers of recreation protected and adorned by a variety of maritime plants (all the way from the lowly bearberry to the rugged Japanese black pine), can take satisfaction in the knowledge that we have had a part in creating an asset of lasting beauty and practical usefulness for the people of our State.

The Crow

PROBABLY few birds have been as heartily maligned by both farmer and sportsman as the American crow, yet honestly admired for its cunning. Anyone who has ever had a pet crow can see this in a nutshell, for a tame crow is a constant source of amusement, pleasure and exasperation all at the same time. Ours would drop down from the highest tree in the yard just to be with us when we stepped out-of-doors, usually alighting on our head without warning, and would "coo" the sweetest "thanks" for choice food morsels, though in rather crude tones. As soon as our backs were turned, however, he would nip off each newly-colored flower bud and lay it gently beside the plant; or he would hop into the vegetable garden to pull corn and pluck the young bean plants. With the advancement of the summer season, however, he worked assiduously on cabbage worms and bean beetles. Wherefore, we didn't know whether to love or hate our pet.


crows enter here, then can't get back up through open 1" from perch 18" below
perch
DOOR
bait
taint
bait
SPACE 6"
End view- showing chicken wire bent down to make a funnel entrance. Leave bottom edges loose and ragged.
Perch diredly below opening
Bait
6'

fauna

The common crow (*Corvus brachyrhynchos*) with its various regional forms is found throughout the agricultural regions of North America, and its increase in abundance and range has followed the development of farming. On the Atlantic and Gulf coasts this species gives way to the smaller fish crow, which is mostly limited to the tidal shores and lives as a beach scavenger. In the arid regions of the Southwest and in the wilder parts of the northern states and Canada, the crow is replaced by his larger relative, the raven.

Crows raise one brood of three to seven young each year. In New York nesting activities normally start in March and by mid-April most nests will have complete clutches. Incubation takes about 18 days and the young remain in the nest for three weeks. The nest is located 20 to 60 feet up, often hidden from below, and usually is found in woodlots adjoining farmland. In July, after the young have ceased to be dependent on their parents, the birds start feeding in loose flocks of 10 to 15 birds. As the season advances, the flocks become larger and by winter the crow's gregariousness is at its peak. Crow winter roosts in this State may be used by 25,000 individuals, but reliable estimates indicate as high as 200,000 birds per roost in some of the western states. Flocks will often travel in a 20 to 30 mile radius from these roosts to feed.

Knowledge concerning crow migration is scant, but from banding studies made throughout the country it appears that the crow moves south in winter. Some may move 100 miles or less, while others travel over 1,000 miles. This means that probably few, if any, of the crows found in New York winter roosts are the same birds that will be present during the summer months, and that crow control during the winter has little effect on the local summer population.

What does a crow eat or, rather, what *doesn't* a crow eat? Examination of 2,118 stomachs of crows from 40 states by the Federal Fish and Wildlife Service has shown some 650 different items in the food taken. Just over one-quarter of the yearly food of the crow is animal matter consisting of insects, spiders, millepedes, crustaceans, snails, the remains of reptiles, amphibians, wild birds and their eggs, poultry and their eggs, small mammals and carrion. Insects make up more than two-thirds of this animal matter, and it is much to the crow's credit that the major part of these are injurious to agriculture—May beetles, white grubs, wireworms, weevils, grasshoppers, and various caterpillars. One stomach contained the fragments of 123 grasshoppers, another the remains of 483 small caterpillars. Nearly three-fourths of the crow's yearly food is vegetable matter, more than half of which is corn. Much of this is waste grain gleaned from the fields after harvest, but the crow often does serious damage in pulling corn sprouts, feeding on ears in the milk stage and feeding on ripened corn in shocks. Other grains, mainly wheat, may suffer damage from crows at sowing or sprouting time and occasionally when mature. Miscellaneous damage to other crops occurs but usually more of a vexatious nature than of economic importance.

The crow has a predilection for bird eggs and nestlings, taking them whenever found. On one side of the ledger we see that only one-third of one per cent of the crow's yearly diet is eggs and nestlings, but on the other side the crow exerts a steady but small pressure against pheasants, grouse and ducks. On waterfowl concentration areas in the West, crows have destroyed up to 30 per cent of duck nests under observation, but the highest observed duck nest destruction in New York has been 10 per cent and under average conditions is probably no more than five per cent of all nests. Crows have been found to destroy some six per cent of pheasant nests under observation in the eastern part of the State and up to 12 per cent on western study areas. Grouse nests destroyed by crows probably average less than two per cent.

A characteristic habit of the crow is that of "heckling" the great horned owl. A few sharp caws and soon all the crows within hearing distance will descend upon the discovered owl. The chase may continue from woodlot to woodlot until the crows weary of the sport or until the owl reaches a perch where further attacks by the black marauders become too risky. This same habit, however, can be turned to the advantage of the hunter. Crow hunting from a blind with a great horned owl as a decoy is a sporting proposition.

ALL in all, it appears that the crow is a lovable reprobate that we neither want to remove entirely nor wish to have in too great abundance. Control on a local scale may be necessary at times, but it is unlikely that a bird as wary as the crow will ever become seriously depleted in numbers. On the other hand, this species can furnish a great deal of sport to those who undertake to hunt them.

—DIRCK BENSON,
Game Research Investigator

New Fish IN NEW WATERS

THE waters adjacent to the greater New York metropolitan area—sometimes referred to as the "Inner Atlantic Bight"—not only are indispensable to much of our country's commerce and industry but also represent a fishery and recreational resource of inestimable value. Each year, for example, some 70,000,000 pounds of fish are removed from these waters for food and industrial use, and each year millions of persons use the beaches, or go fishing on the hundreds of available party boats, or otherwise use these waters—for any one of a number of purposes. Here indeed is a case of the "multiple use" of a great natural resource, and as such, its full development is a challenge to both the professional conservationist and individual citizen alike.

The pollution problem of this "inner bight", the progress made by the Interstate Sanitation Commission and the City of New York in sewage treatment, and the rezoning of acid-copperas wastes outside the main fishery area, were described in the June-July (1949) issue of THE CONSERVATIONIST. It was also mentioned at that time, however, that attempts would be made to build new fishing grounds from the rubble, bricks and broken concrete being disposed at sea in the deep waters of the gorge off New York Harbor.

It can now be reported that a bottom fishing ground approximately 600 yards long and 50 yards wide is under construction. The Department's Bureau of Marine Fisheries has a rough sketch map showing the location of this area, and the map is available without charge by writing to the Bureau. But even without it the grounds can be easily located. They are two and three-fourths miles due south of Long Beach (which can be recognized from the water by the prominent clock tower and tank), and about midway on a line drawn between Buoy No. 4 and Buoy No. 2. Last December 6, some 2,000 cubic yards of old foundation material from the Gov. Alfred E. Smith housing project on New York's lower east side were carefully disposed at this ocean spot.

We say "carefully disposed" because the building of an ocean fishing ground in these waters is not a simple matter. In the first place there is the question of navigation and the need to keep such grounds outside the fairway approaches to the harbor, yet in a depth of over 50 feet and without raising the level of the bottom more than two feet. Secondly, there is the necessity for accurately locating such disposals away from any of the numerous ocean cables present in this general area. Thirdly, there's the need to have such grounds conveniently accessible to the fishing boats using Jones, East Rockaway, and Rockaway inlets. Fourthly, there's the necessity of using only a suitable and available type of material, and the need for a towing company which will voluntarily take an active interest in the project and contribute the additional time and effort involved with the longer tows.

The Bureau of Marine Fisheries has again been most fortunate, not only in having the full co-operation and assistance of Capt. Jefferson D. Beard, USN, Supervisor of New York Harbor, and the members of the staff including Capts. John Noonan and August Blacksmith of the Patrol Ships "Argus" and "Active", respectively, but also of the O'Brien Towing Co. and the McAllister Lighterage Co. Fishermen owe a debt of gratitude to these companies for their active interest in the project. The new fish haven has been "officially" christened by a sports writer "The McAllister Grounds" because of the part the company played in furnishing (gratis) men, dumping materials, and transportation for same.

There's little that's mysterious—or necessarily new—about artificial fishing grounds in our marine district. The rough bottom merely attracts and holds crustacea, sets of mollusks, and small fish; and these in turn attract such food and game fishes as sea bass, porgies, blackfish, and cod. Our relatively few ocean grounds in this area, however, have come about by accident (shipwrecks, deep water waste disposals, old cinders, etc.), while planned disposals have been small, inshore projects. The McAllister Grounds, on the other hand, is probably by far the largest planned disposal of its kind yet attempted on our Atlantic Coast. If successful—as the presence of cod already indicates that it will be—it should provide thousands of fishing days to the hosts of anglers who "bottom fish" the waters of our marine district.

A fishing ground 600 yards long and 50 yards wide may seem merely a "drop in the ocean". But those who know bottom fishing and the habits of salt water fish will appreciate what a drawing card such a ground can be, and what large numbers of fish it can support. In addition, the new fishing waters should be at least a partial answer to one of the most difficult problems confronting the Conservation Department—the problem of supplying convenient, inexpensive and satisfactory outdoor recreation for the enormous number of people seeking it in the metropolitan area.

That the new ground will be utilized fully is evidenced in the interest already aroused on the waterfront. Legions of salt water anglers are preparing for a crack at the new grounds, especially those whose specialty is cod fishing; they're most anxious to test the spot.

FURTHER, the efficient "multiple use" of a resource is an ideal much talked about among conservationists yet seldom achieved in practice due to the necessity for understanding, co-operation, and compromise on the part of all interests concerned. It seems possible, however, that the development of the McAllister Grounds, together with the re-zoning of pollutants and the progressive increase in sewage treatment, may well represent the steps necessary for such an achievement in "multiple use." The co-operation of all interested persons is cordially invited!

—JAMES R. WESTMAN, *Sr. Aquatic Biologist (Marine)* and EDWARD BEVELANDER, *Marine Fisheries Aide*

With one ear, I pick our business out of the jumbled mixture of car static and police calls; with the other, I listen for the ever ominous silence from the playroom

I Married a Ranger

BY MRS. KARL RISSLAND

The Conservation Department takes this opportunity to admit, publicly and gladly, that without the ladies who married a Ranger its fire fighting organization would be virtually crippled. Mrs. Rissland's story is not an exaggeration

EVEN before we were married, my husband expressed his conviction that a woman's place is in the home. One of those old, familiar sayings that I didn't take seriously. What he didn't say was that as a Forest Ranger, his headquarters —complete with telephone, maps, volunteer fire fighters (VFF's), and a short wave radio—would be in said home. He didn't say anything about the "Fire Season" when a Ranger's wife is expected to be on hand 24 hours a day to answer the telephone, relay fire calls, locate and send the right number of men to the fire when the Ranger is fighting another one—a confinement that rivals any pregnancy. (The "Fire Season" may be defined as any time when there's combustible organic material on the ground.)

For all this, the Ranger's wife receives no remuneration of any sort—not even thanks. But she is not destined to pass unnoticed. She will be assured of her importance in the Conservation scheme of things with both vigor and profanity the first time she misses a call. If you like movies, concerts, trips, or shopping expeditions, don't marry a Ranger. Moreover a Ranger's wife is supposed to be a sort of walking almanac. I may forget the dates of wars and deaths of kings, but heaven help me if I miss the opening dates of hunting and fishing season or when camping sites are available. I must know the law as applied to lumbering and the correct disposal of waste thereof (top-lopping). I am becoming a radio ham with a speaking acquaintance with crystals and condensors. With one ear, I pick our business out of the jumbled mixture of car static and police calls; with the other, I listen for the ever ominous silence from the playroom. Once, after about two weeks in solitary, it rained and I scurried downtown to do something about Mother Hubbard's cupboard. In an hour I had bought two weeks' groceries and a tricycle for my small daughter. When I got back to the house, the telephone was ringing and an irrate voice demanded to know why no one had answered the telephone a half hour previous. Another gentleman was highly indignant because I had taken a snowy February day off (unfortunately the same day he had chosen to remove some paint from a haybarn with a blowtorch).

Every wife dreads the day when her husband walks in with unexpected company for dinner. My husband not only walks in with unexpected company, but at unexpected hours. He comes tearing in, throwing his hat on the nearest chair: "Hi, Honey! What's good? We're hungry." I don't need the plural pronoun to tell me what's coming; the cheerful, hearty greeting

is enough. For this reason most of my meals consist of courses that can be added to easily—like more water in the soup or more breadcrumbs in the hamburg.

My dishes are never done. I suspect that the neighborhood gossip runs the gauntlet from sympathy to damning. I may be doing dishes any time during the day, and as surely as I have the last dish washed and put away, the Ranger "wants a cup of coffee and something to eat." So it goes. In those distant, premarital days, I imagined him working 9-5 with Saturday afternoons and Sundays off. I saw quiet, anti-acid meals and family outings. As it turned out, week-ends are our busiest time because everybody else *does* have that time off and makes the most of it. Makes the most fires, too. The Ranger is always on hand to put them out or if he's busy putting somebody else's out, his wife is always on hand to find a fire warden and enough men to put yours out.

ABOUT 11:30 one hot day, my husband came in with two cohorts. "Dinner ready?" Dinner was not ready. Unless previously warned, it is ready at noon whether he's here or not. "Well hurry it up; looks like a bad fire day." The two cohorts were a couple of nice young fellows with healthy, woodsmen's appetites. In ten minutes it was ready; in ten and a half they were on their way to a blazing sawmill which was in the heart of prime, standing Adirondack timber. I left my two small children high and dry at the steaming dinner-table to serve themselves (and, I suspect, the cat and dog) cafeteria style while I used the telephone to call in all available help. Speed in getting to a fire with plenty of men and equipment is essential in keeping fire losses at a minimum. In this business the telephone operators deserve a lot of credit for making speedy connections even on party lines. In the above case, thanks to the co-operation between Conservation personnel, several volunteer fire companies, and numerous VFF plus the assistance of an unknown telephone operator, some $9,000 worth of lumber was saved.

Perhaps my greatest personal grievance is that many of the VFF assume that a Ranger's home is public property and make themselves free accordingly. One day I went into the office to find one VFF sitting comfortably with his feet on the desk reading a letter from my mother. Although I had no idea he was even in the house, he looked up completely unabashed and said admiringly, "Smart fellow! Wish I had an answer like this when my mother-in-law wants us to visit her for Thanksgiving. Fire danger and Christmas tree patrol. Humph!"

When I see them (the VFF) sprawled over the living-room furniture (more comfortable than the office), I sometimes wonder if in some previous existence they had been reclining Romans. Liquid and solid refreshments disappear like magic. They expect my husband to solve their personal problems irrespective of whether they belong to the strong arm or strong mind department. But it's all in the life of a Ranger—and a Ranger's wife.

By virtue of his job, a Ranger's hours are necessarily unconventional. The current romantic picture of a Forest Ranger presents a beautifully attired knight riding unerringly to the danger spot and gallantly guiding lovely ladies to safety. In the first place, the Ranger who spends his time rescuing lovely ladies will end up with a frying pan broken over his head by the little woman. In the second place any part of his territory is a potential danger spot and there's no crystal ball to tell which little party of awestruck sightseers or hunters is going to drop the fatal spark. As for the beautful attire, it goes to the cleaner's after a bad fire. That's why a Ranger needs so many uniforms. Finally he has a tremendous number of highly unromantic reports to make out. Reports not only of his own personal activity, but also of each fire in the whole dress parade of duplication. The local field man is supposed to make out the report on each fire he has worked on, but much of the time the Ranger has to check these over for one reason or another. This entire business seldom can be confined to the customary eight hours of labor; usually it goes through the hours generally allotted to recreation and well into those for sleep. For this reason as well as to build up a reserve against the stubborn, slow-burning fire that lasts for several days, my husband catches naps whenever he can. However our many visitors invariably greet his prone position with; "Oh, for the life of a Ranger!" Invariably they wake him up to recount the latest gossip. Sometimes when it isn't too dry, I'll slip downtown for a quick replenishing job. When I do, I lock him in. Not even that works all the time; some of these VFF are not averse to using master keys. One day I came back to find the door unlocked and the wife of one of them in the kitchen warming her baby's bottle.

Because many of the people whom a Ranger has to see are at home only at night, he has to spend many long nights "on the road". Particularly where he has a large territory. This means that more than most, he is prey for gossips. Since nothing ever happens in a countryside of farms and villages, what you hear about the Ranger and his family separately and collectively makes up for it. Gossip is something we have to put up with.

Personally I am constantly amused and amazed at the candor with which the more harmless gossips ply their trade. We have provided boundless topics for discussion for our neighbors. Nothing escapes them. Nothing. They pay special attention to the VFF and their conveyances. They scrutinize everything that walks on legs or runs on wheels. When in doubt they ask. The presence of other departmental vehicles brings forth a barrage of comments. A personage from an allied department arouses no audible comment. Apparently they suspect the worst and are too chivalrous to embarrass us by questions. I'm thinking of the time a car crashed and burned on a country road. My husband attended to the fire and then turned the matter over to the State Police. Later a Trooper stopped by to get the details straight for his records. Eyes and ears protruded from all directions like buttons on rubber bands. But no one ever mentioned the incident. Oh, it's a great life if you don't weaken, but think how much fun it's going to be when I do weaken some day and give them the lurid answers I lie awake nights dreaming up.

IN spite of everthing, the uncertainties (that salary check long overdue), the hazards (the beautiful blonde to whom the Ranger must explain the anatomy of a fire extinguisher or something equally obvious), the disappointments and disgust (the guy with "pull"), the vacations (they come between paychecks and in the company of snowstorms), I love it! I'm proud of my husband. I'm proud of his work and proud to have a part in it. My neighbors and I have mutual sympathy parties. They sympathize with me for the humdrum life I lead, for being tied so closely to the office, and for having a husband who is on the road most of the time. I sympathize with them for the dull, unvarying routine of their lives. The prospect of having a husband who would arrive home every day for 30 or 40 years at 5:44 never did appeal to me.

P.S. A distraught man who lives 50 minutes of pioneer miles away has just called to say that the stork and a howling blizzard are beating a track to his door. Will the Ranger get the doctor?

THE OLD FARM RENEWED

YOUNG Jim graduated from Ag college last June and has been home on the farm almost a year now. When Jim came back I turned the operation of the farm over to him and I've been just taking it easy and watching him put his new-fangled ideas into practice right here, on the home farm that I've operated for the past 30 years.

My wife and I thought we had done right well on this farm. We raised and educated our children, built up a good dairy herd of holsteins, remodeled the house and put up a new barn. We joined the Farm Bureau years ago and used the advice given by the County Agent on liming, fertilizing, grass mixture, livestock breeding, and the best varieties of seed to use for crops. We've kept up with the modern machinery and had the farm all modernized before Jim took it over last June.

One hot summer day in July Jim wanted me to take a walk over the farm with him. We had just had a gully washer the night before and I guess he figured this was a good time to show me the damage erosion had done to our land. He pointed out along the fence row how the soil had built up and how the little gullies had washed down each corn row and piled the top soil along the fence. We walked to the other side of the hill and followed the rivulets down the corn rows, but before we got to the end of the rows the rivulets came together and formed a gully nearly a foot deep and almost 200 feet long. I told Jim he could fill these in when he cultivated the corn the other way. But Jim said that wasn't the answer, he said we'd have to change our system. I told him I'd always farmed the fields the long way of the fences and when the gullies came I just plowed them in before putting in another crop. Jim said that looked all right but I was losing a lot of fertilizer and topsoil, and he showed me the light colored spots in the field where the topsoil was mostly gone. It was easy to see that the corn wasn't doing near as well as where erosion hadn't taken place.

Jim suggested we go up to the woods and sit in the shade for a while. As we were catching our breath I could see he was thinking mighty hard about something, and pretty soon it came out. He said he'd been thinking about this farm for the future and what would be the best thing to do to put each acre to its best use. He said there was a new Soil Conservation District organized in the county and he thought they would be able to help us out.

Then he asked me if it would be all right to have the district technician come out and talk to us. I said I suppose so, but I am not much for some of these new-fangled ideas. Jim said he understood there was no obligation; if they recommended something we didn't think was good we didn't have to accept it. On that basis let's have them out, I said.

What good do the cows get out of the woods?

Ought to do something with the swamp to make it productive

As we got up to leave the woods we heard a rustling behind us, and there we saw our herd of cows standing in the woods switching their tails and chewing their cuds. Jim asked what good the cows got out of the woods besides the shade. I thought a minute, but couldn't think up a good reason except the shade. Besides, the cuts and bruises suffered by the cows' udders over the years was buzzing in my mind and I finally realized it was in the woods where the damage was done. So I could go along with Jim right off when he suggested that the cows should be fenced out; it would not only be better for the cows but the woods too, in allowing the young trees to grow and the larger trees to grow faster.

On the way back to the house we passed a swamp—about five acres—right in the middle of the pasture. We'd never made a nickel out of those five acres, and Jim said he thought we ought to do something with the swamp to make it productive. He suggested damming up the area and making a muskrat marsh out of it.

A few weeks after our trip a man came out from the Soil Conservation District, and blessed if he didn't bring aerial photographs of the farm. He talked to Jim awhile and then took off across the fields toward the back of the farm. He spent the rest of the day going over all the fields, boring little holes with an augur and sighting on various things with a level. Jim said he was the District Soils Technician making a detailed soils maps.

THE following week another fellow came to the house about nine o'clock one morning and introduced himself as a farm planner representing the Soil Conservation District. He had the soils map with him and another map of the farm that was colored green, yellow, red, blue and a little brown. I asked him who daubed the paint on the map; I thought it was a shame to spoil the soils map. He explained the various colors were put on the map purposely, and that it was the land use capability map. He explained both the soils map and land use capability map to both

The damage erosion had done to our farm

Jim and me, then said he would like to walk over the fields with us. We spent the rest of the forenoon going over the fields and getting his ideas about what should be done on each one.

Back at the house, we sat on the front porch and went over the plan and the control measures indicated on the land capability map. The plan called for diversion ditches with outlets for the water, contour strips which would run around the hills on the level—rather than up and down the way I had always farmed. Certain steep areas were planned for reforestation. Rotations were lengthened on some fields so we would have more hay for the stock. The permanent pastures were planned for lime and superphosphate application. The pasture acreage was to be increased by putting some of the blue land on the capability map into pasture. The swamp area in the pasture was planned for a muskrat pond by raising the water with a small dam. Shrub and conifer plantings were layed out for developing wildlife areas, and multiflora rose would be put in as a living fence.

The woods were to be fenced off the way Jim and I had decided. In addition this fellow suggested we have the District Forester of the Conservation Department come out and talk over our woodlot problem.

Down by the buildings was a likely spot for a farm pond. We had always had plenty of water but not where we wanted it, not handy to the buildings. We could see a farm pond would be just the thing for fire protection, stock water and irrigation if we ever had as dry a summer as this one. The fellow also said the pond could be stocked with fish for food and recreation.

Before this fellow left he explained how the Soil Conservation District operated and how they could be of help in getting the practices put into effect. He said under the Production and Marketing Administration program there was a payment for carrying out some conservation practices. He also told how the State Conservation Department co-operated by working with us on forestry and wildlife problems.

Jim wanted to get some of the work done in the fall so he made arrangements with the District for a power-grader with operator to build diversion ditches; and a bulldozer to throw up the earth dam for the farm pond and marsh. The technician came back with one of his helpers and laid out the diversion ditches and the strip crop lines, and designed the dams for the pond and marsh. He was also on the job from time to time while the construction work was being done—to check grades and see that the work came up to the District's specifications. In August the diversion ditches and outlets were constructed and seeded to grass mixture, the dams built for the pond and the marsh areas. Jim and I fenced the cattle out of the woods just before the ground froze.

IN January Jim and I took a walk out to some of the fields we couldn't see from the house to find out how the diversion ditches were working. They seemed to be all right but for the life of me I would swear the water in the ditches was running up hill. But they were catching the water from above and they'd stopped the gullying that had taken place before during the fall and early winter rains.

The water in the marsh seemed to be deeper than it had been in years. Jim said the District Game Manager of the Conservation Department had told him at the time the dam was put in that muskrats would probably come into the marsh in the spring when the cattails started growing. I knew that muskrats multiplied pretty fast so I asked Jim what he expected to do with them. He said he would trap them out if there were too many and sell the pelts which were worth about $2.40.

During the winter months Jim spent more and more of his evenings down at the next door neighbors' who had a pretty blue-eyed blonde daughter about 20 years old. I asked Jim what was so interesting down there and he said he was trying to sell her dad on conservation farming. I said, it sure takes a long time to sell that old duffer. Jim said he was making progress and would have something to report in the spring. Well, Jim and this girl Mary announced their engagement in April.

I was a bit skeptical on plowing on the contour so I went out to the field where contour strips had been laid out by the district man and Jim last fall. Jim had one strip done and was working on the second of four in the field. The strips were one hundred feet wide and wound around the hill instead of up and down as I had always plowed. Between each strip was another strip one-hundred feet wide which would remain in hay this year. I watched the tractor as Jim guided it around the hill without effort. When Jim came back to where I was he stopped and got off the tractor and came over and said it plowed much easier going around the hill than up and down. I wanted to find out for myself so I plowed a couple of rounds and sure enough Jim was right.

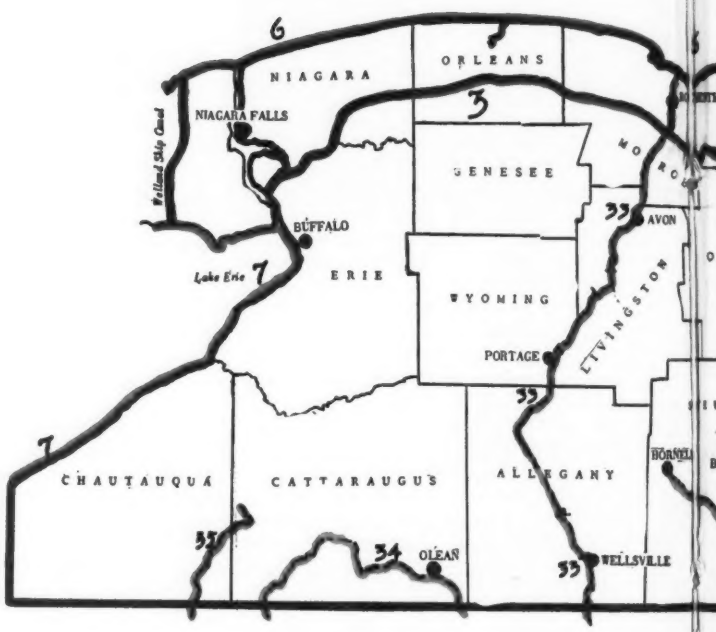
The spring grain crop is all in now and the corn will be planted on the contoured plowed strips in May. Jim still has a lot of work to do to get all his conservation plan into effect. Next spring he will put in 10,000 tree seedlings on the steep land. which will be furnished free by the Conservation Department because Jim has signed up under the Forest Practice Act. He will also put in some shrubs for wildlife and try multiflora rose as a living fence. A part of the pasture will be treated with lime and superphosphate this fall. It will take a few years to get everything fixed up as Jim wants it, but he is well on the way.

Right now we are all getting ready for Jim and Mary's wedding in June.

—HAROLD E. KLINGAMAN,
Supt., Bureau of Soil Conservation

water travel

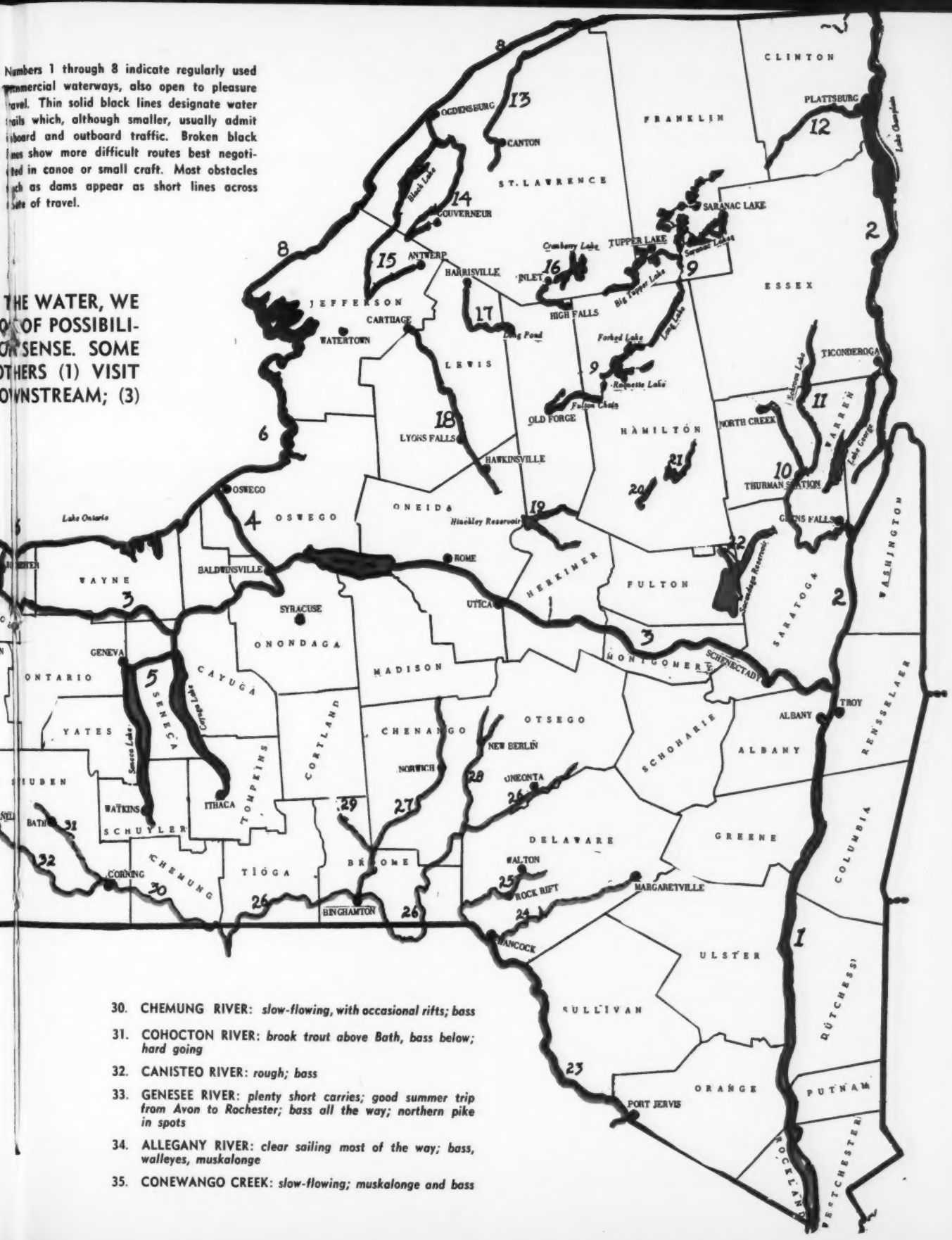
FOR THOSE WHO PLAN A VACATION ON THE
PRESENT THIS MAP MERELY AS A CATALO O
TIES. IT REQUIRES AN INDEX OF COMMO SE
BOATERS TOIL AND DRUDGE. MOST OTHE
LOCALITY IN ADVANCE; (2) TRAVEL DOWN
TRAVEL LIGHT FOR PORTAGES



1. LOWER HUDSON: *most warm-water species of fish; also shad, striped bass, sturgeon*
2. UPPER HUDSON & CHAMPLAIN CANAL: *bass, northern pike, walleyes*
3. MOHAWK RIVER & BARGE CANAL: *bass, northern pike, walleyes, pickerel*
4. BARGE CANAL TO OSWEGO: *bass, northern pike, walleyes, pickerel*
5. BARGE CANAL TO CAYUGA AND SENECA LAKES: *bass and pickerel*
6. LAKE ONTARIO: see Conservationist *February-March 1950*
7. LAKE ERIE: *bass, walleyes, northern pike, lake trout; catfish in spots;* see Conservationist *April-May 1949*
8. ST. LAWRENCE RIVER: *bass, northern pike, walleyes, pickerel, muskalonge*
9. ADIRONDACK CANOE ROUTES: see *Recreation Circular #7, Conservation Department*
10. NORTHERN HUDSON: *rough above Thurman Station; canoeable only in stillwaters above North Creek; bass, brown and brook trout, some northern pike*
11. SCHROON RIVER: *rough south of Schroon Lake; brook trout and landlocked salmon in inlet; landlocks, bass, lake trout, northern pike in lake; northern pike and bass in outlet*
12. SARANAC RIVER: *very rough canoeing; brook trout and bass; big brook trout in upper stretches*
13. GRASS RIVER: *northern pike, bass, walleyes, few muskalonge*
14. OSWEGATCHIE RIVER: *numerous dams; bass, pickerel, northern pike, walleyes, few muskalonge*
15. INDIAN RIVER AND BLACK LAKE: *good trip Antwerp to Ogdensburg, quiet water, few carries; northern pike, pickerel, bass, walleyes, few muskalonge*
16. CRANBERRY LAKE AND INLET *to High Falls: quiet water, mostly State land; large brook trout*
17. OSWEGATCHIE, WEST BRANCH: *almost continuous public fishing rights; good canoeing but quite a few carries; brook trout*
18. BLACK RIVER: *quiet, but occasionally rough; brook trout above Lyons Falls, bass and northern pike below; rugged going above Hawkinsville*
19. HINCKLEY RESERVOIR: *mostly panfish*
20. PISECO LAKE: *lake trout, bass, whitefish;* see Conservationist *June-July 1949*
21. LAKE PLEASANT: *lake trout, bass, whitefish*
22. SACANDAGA RESERVOIR: *plenty of walleyes; large northern pike; good bullhead fishing*
23. DELAWARE RIVER: *white water, for the experienced only; bass, walleyes, brook trout*
24. DELAWARE RIVER, EAST BRANCH: *brown trout below Margaretville; bass, walleyes below Downsville*
25. DELAWARE RIVER, WEST BRANCH: *rough from Walton to Rock Rift; bass and walleyes*
26. SUSQUEHANNA RIVER: *deep water; few dams easily negotiated; bass and walleyes*
27. CHENANGO RIVER: *deep; good boating; brook trout and bass in upper stretches; bass, walleyes, and pickerel below*
28. UNADILLA RIVER: *deep water; bass, walleyes, pickerel*
29. TIOUGHNIOGU RIVER: *canoeable; fishing only fair for bass and few walleyes*

Numbers 1 through 8 indicate regularly used commercial waterways, also open to pleasure travel. Thin solid black lines designate water trails which, although smaller, usually admit inboard and outboard traffic. Broken black lines show more difficult routes best negotiated in canoe or small craft. Most obstacles such as dams appear as short lines across route of travel.

THE WATER, WE
OF POSSIBILI-
SENSE. SOME
THERS (1) VISIT
WNSTREAM; (3)



30. CHEMUNG RIVER: *slow-flowing, with occasional rifts; bass*
31. COHOCTON RIVER: *brook trout above Bath, bass below; hard going*
32. CANISTEO RIVER: *rough; bass*
33. GENESEE RIVER: *plenty short carries; good summer trip from Avon to Rochester; bass all the way; northern pike in spots*
34. ALLEGANY RIVER: *clear sailing most of the way; bass, walleyes, muskalonge*
35. CONEWANGO CREEK: *slow-flowing; muskalonge and bass*

IT is a distinct privilege to be a native of Schroon Lake, but for all that the number of such native sons grows smaller each year. I refer to that hardy group of individuals related to and bearing the imprint of the stalwart founders of the Town of Schroon, who so wisely selected this paradise of lake and forest for their homesteads 150 years ago. This was a group of the highest moral integrity, physical stamina, good judgment, possessed of a keen sense of humor, good neighbors, good hunters and good woodsmen, with a nice balance between good hard work and happy living. Although those of us who remain cannot claim such distinction, we can at least thoroughly enjoy the many attractions of Schroon, town and lake.

A progressive Chamber of Commerce and a co-operative town government have succeeded in promoting Schroon Lake as a friendly town. With this purpose in mind their program includes weekly square dances at the Town Park, supervised youth recreation, colorful regattas, bathing beauty contests, prizes for the best fish story and for the largest fish of each kind taken, entertainments by the Schroon Lake Fish and Game Club, the volunteer firemen, the Legion, the Chamber of Commerce, hotels, camps, and schools—entertainment ranging from fireworks and carnivals to Broadway musicals, legitimate theatre and operettas. And when things get all wound up you can start a parade (we love 'em), an Indian war dance with snakes, or La Conga at the drop of a hat on Main Street.

All this and Schroon Lake too is a bargain package no wise city dweller will overlook when he has the urge, (and a little extra of that folding stuff), to venture into the Adirondacks for fun and health and sport.

Schroon Lake is about nine miles long and a mile and a half wide and lies north and south between the broad mountainous reaches of the Kayderosseras Range on the east and the Schroon Range to the west. It is, of course, in southern Essex County, and in the Adirondack Forest Preserve. Its shoreline, extending over 30 miles, offers unlimited variety from steep rock ledges to secluded white sand coves and boulder strewn beaches, from marsh and weed bed areas to miles of edgewater timber. Isola Bella, directly opposite the Village of Schroon and close under the east shore of the lake, is the larger of two islands and a focal point for anglers. Nearby are deep water bass grounds with reef and rock ledge bottoms adjacent to shallow feeding areas; also perch beds extending towards Talichito Point, plug and bait casting around the island's shores for calico and large- and smallmouth bass and northern pike; and, sighting from its south end to Bohrmann Bay and to Leland House Point, you can plot the courses of the lake trout angler, trolling his spoon over water 200 feet deep.

Fishing in Schroon Lake is diversified and widespread, and furthermore it's available in some form every month of the year. Usually by April first, when the lake trout and landlocked salmon seasons open, the inflowing Schroon River has opened an acre or two of water at the head of the lake, and yearly a few intrepid souls will launch a boat or two by pushing them over the surrounding ice until it gives away near the open area. Then, dodging the debris and ice floes spewed into the lake by a rising river, they troll spoons and wobblers and streamer flies for the first salmon of the new season. Such prodigious efforts, however, are not overproductive (other than of frigid dunkings), yet on April 1, 1935 two local boys boated what is to date the largest salmon taken from the lake by angling—nine and three-quarters pounds. (Last fall, however, Conservation Department men, netting fish for egg collection, took a 10 lb., 5 oz. fish.) If you have a good rod and an arm to match, along about the last week in April you can lay some streamers close under the banks of the Schroon River at the deep-water holes and perhaps raise a salmon. Or you can troll a surface bait or fly where tributary streams (such as Tannery Brook at the village park, Thurman Pond Brook at South Schroon, or Mill Brook at Adirondack) join the lake. Your chances in such spots are equally good for a tussle with a salmon, or a lake trout, or a smallmouth bass. The bass, of course, you put back in the lake.

SUMMER finds the lake trout enthusiast seeking his prey with heavy lead in the deep water areas described above, and also in that broadest expanse of Schroon Lake between Blind Island (off Eagle Point) and the Village of Adirondack on the east side. And warm weather brings out the bullheader, slipping out in a flat bottom in the evening, with lantern and cane pole, to his favorite soft-bottom spots; and the evening bait caster tempting the crappie, the smallmouth, and the northern pike with lures dropped alongside of a sheltering lily pad or weed bed; and the middle-of-the-day angler confidently riding at anchor on a perch bed, or off a reef point, or under a rocky ledge in deep water, his line overboard with a hellgrammite leashed by the collar, waiting patiently for the grandaddy of all bass.

During mid-winter the lake is covered with two feet of ice and a heavy blanket of snow. A few fish shanties dot its surface over deep water channels where efforts of local anglers are sometimes rewarded with a mess of small-sized, succulent smelt. To the bays, especially at the head of the lake, comes a hardier type, bundled to the ears in countless layers of clothing and bolstered by other body warming methods, and bent on tip-up fishing for northern pike. (It was here and under such circumstances that a local angler last winter experienced a soul-cleansing, habit-breaking nightmare; he hooked and pulled out a full grown, loudly hissing otter.) The perch angler is another, more gregarious winter type seldom venturing forth in groups of less than 15 or 20. With that many people cutting holes and fishing together in line, a school of yellow perch is readily located and followed about. But perch or no perch, this is a cheery, companionable group.

The Conservation Department maintains one large public campsite at Eagle Point, with an especially fine white sand bathing beach and accommodations for both campers and picnic parties. It is on the west side and near the lower end of the lake, and is readily accessible from U. S. Route 9. The Town provides a central public beach adjacent to the Park in the Village of Schroon, and one each at the foot of Fowler Avenue and the James Hayes Memorial Road at South Schroon. There is a public dock at Bogle Point, access to the lake being easy at this and other points. A second public campsite is maintained by the Department on Schroon's nearby and river-connected

sister lake of Paradox, and a third at Sharp's Bridge in North Hudson, on the Upper Schroon River.

Schroon Lake offers a convenient base for an unlimited number of woodland trips in all directions, to rivers such as the Bouquet, the Schroon, the Boreas, and the Branch; to countless flows, streams, and beaver dams; to trout ponds like Clear, Gull, Spectacle, Bigsby, Bailey, Twin, Marsh, Sand, and Wolfe; to Crane, Moose Mountain, Knob, Thurman, Big Rogers, Putts, Oxshoe, and Johnson ponds for bass and pike; and to Lake Paradox, Pharaoh, Eagle, Elk, Harris, Bass, Loon, and Champlain; to some of the best big game hunting areas such as the Boreas, Texas, Blue Ridge, Niagara, McComb, Spotted and other ranges in Schroon and North Hudson townships; and to marked trails to Mt. Marcy, Pharaoh Mountain, Peaked Hill, Hoffman Notch, Dix, Boreas and many others less well known.

Everything considered, you can hardly blame us for thinking we live in God's Country.

—Dwinal Kerst,
Asst. District Game Protector

INTEREST in landlocked salmon is at a peak at this time of year. We share this interest, and every bit of accurate information we can get concerning salmon will help us in managing this fish, and therefore, in improving salmon fishing.

There are a number of marked landlocks and Atlantics (which are indistinguishable) swimming around. For example, yearlings were planted in the Schroon River in May, 1945 with clipped adipose fin (small, fatty fin between tail and dorsal fin). The returns on these and other planting experiments are helping to check spring vs. fall planting results and to get other facts essential in planning future management. Studies so far show that the Schroon River has good survival from natural spawning in some years, as well as from the plantings.

If you catch a salmon, please be sure to look at all its fins carefully. If any fin is missing or stubby, note whether it is the left or right belly (ventral) fin, left or right shoulder (pectoral) fin, or the dorsal, adipose or anal fin. Scale samples of *all* salmon are desired, whether fin-clipped or not. This means only the trouble of scraping a few scales (about 20) from the side of the salmon, folding them into a piece of paper, and mailing them to us in Albany. Length measurements (and weight if known), together with locality where taken, date, your name and address are also necessary. If unlucky, just send us your observations.

Thanks are certainly in order to those who have reported information in previous years, thereby helping greatly to record the progress of the salmon resource. Incidentally, if the experimental plantings in Lake George come along well, there is likely to be an upturn in the number of small salmon taken in this lake.

dogwood

To Pick— Or Not To Pick

FACT AND FANCY ABOUT THE NEW YORK WILDFLOWER LAW

FROM the many letters which the Conservation Department receives about picking wildflowers, it would appear that there is a firmly established misunderstanding in the public mind regarding this subject. For some unknown reason a majority of the Nature-lovers in the State seem to be convinced that the picking of certain flowers or taking parts of certain shrubs, like mountain laurel or dogwood, is against the law, no matter where it's done.

Section 1425 of the Penal Law, which covers the general subject of "Malicious Injury to and Destruction of Property" does say something about wildflowers; but what it says applies only to public lands. According to Subdivision 2 of Section 1425, anyone is guilty of a misdemeanor who wilfully

"Cuts down, girdles or otherwise injures or destroys, a fruit, shade or ornamental tree standing on the lands of another, or takes, picks, plucks, severs, carries away, removes, or injures, in a manner to kill or cause to die, or destroys any plant, shrub, tree or vine, of any wild or cultivated trailing arbutus (epigaea repens), lotus flower (nelumbo lutea), flowering dogwood (cornus florida), mountain laurel (kalmia latifolia) or pink lady's slipper or any of the moccasin flowers including cypripedium acaule, cypripedium pubescens, cypripedium parviflorium, cypripedium regina or either gentian crinata or gentian andrewsia or ferns of any kind growing on the lands of the people of the state, or in any street, highway, public place or park belonging to or under the control of any county, city, town or village; or willfully digs up, takes or carries away the hart's tongue fern (scolopendrium vulgare) from any location in Onondaga or Madison counties; or willfully picks, destroys, digs up, takes or carries away the white lady's slipper (cypripedium candidum) from any location in Genesee county;"

It's clear, however, from a critical reading of the statute that its provisions as regards wild flowers are meant to apply only to lands under the jurisdiction of the State or local governments and do not prevent the picking of these particular plants on your own property or on other private lands. (It is hardly necessary to point out that one is not supposed to pick flowers or anything else on another person's property without his permission.)

There are, of course, two exceptions to the above: (a) with respect to hart's tongue fern, which cannot be taken from any location in Onondaga or Madison counties, and (b) prohibiting the picking of the white lady's slipper anywhere in Genesee County; but these are of strictly local application.

The important thing about the wildflower law, from the standpoint of the Conservation Department, is subdivision 15a of "1425," which stipulates that "The conservation commission and the state council of parks, within their respective jurisdiction, their several employees, the state police and all peace officers, are charged with the duty of enforcing subdivision two of this section." It further states here that "possession by any person of the whole or part of a plant which subdivision two of this section is intended to protect shall be presumptive evidence that the same was unlawfully taken by the possessor."

So far as the State lands are concerned, it is illegal under the regulations of the Conservation Department to "deface, remove, destroy or otherwise injure in any manner whatsoever any tree, flower, shrub, fern, moss or other plant." In addition, Section 61 of the Conservation Law stipulates that on State forest lands, "no person shall cut, remove or destroy any trees or timber . . . or enter upon such lands with intent so to do." *Thus the State lands in general, and lands under the jurisdiction of the Conservation Department in particular, are adequately protected against wildflower or tree vandalism, even without Section 1425.*

It is to be hoped that a clearer understanding of the wildflower law in New York will eliminate some of the arguments and recriminations that are sometimes known to take place, even among the best-intentioned conservationists, where these "protected" plants are concerned. In a nutshell: "pick what you please on your own land (or on the other fellow's with his permission), but be careful what you pick along the highway or in the village or county park, and don't pick anything on State land."

—E. W. LITTLEFIELD,
Superintendent, Forest Management.

ladyslipper
gentians
arbutis

POSITION WANTED

PERSONNELWISE, the Conservation Department has a head start over other departments and agencies of the State government. How come, you say? Well, did you ever hear of anyone who wanted to work for the Tax Department simply because he liked taxes, or for the Correction Department because of an affection for prisons? Where the Conservation Department is concerned though, we find that a lot of people want to work for us. The work we're engaged in has a tremendous attraction. So much so that we can't help disappointing some of the people who would give their right arms for a job in the conservation business.

Let's take a look at jobs in the Conservation Department and see just what the opportunities are. Not including the various State Parks and the Saratoga Springs Reservation, we employ approximately 2,500 persons in 157 different types of jobs. You'll find Conservation Department employees in every county of the State. The Department has 490 field stations and offices, ranging from one employee at a fire tower, to 15 or 20 at a game farm or fish hatchery.

Because of the number of people we employ, the variety of jobs that are performed, and the State-wide scope of our operations, many aspirants for jobs with us have the erroneous impression that there is an opportunity for everyone regardless of background or our needs at the moment. Take, for example, the young man (if he insists we'll include the not infrequent applicant—age 50) who wants a job with us because "I have hunted and fished all my life and love the out-of-doors."

Frankly, there just isn't very much that we can do for him. In the first place, government work in conservation requires, to an ever increasing extent, special technical or scientific training. Persons who merely "like to be outdoors" or who "love the woods and hunting and fishing" are not necessarily qualified for service with the Conservation Department. Secondly, this type of applicant would only be eligible for an unskilled job. If such a job becomes vacant in his locality and he is selected for appointment, his chances for advancement to higher and more exacting positions in the Department are practically nil in the absence of some specific ability or skill on his part that we have need for.

The big chunk of the overall job to be done in conservation requires employees who have been trained in one of several fields—forestry, engineering, fisheries, and wildlife conservation—to mention the principal ones. The jobs involved are professional in character and employees with professional training are needed to fill them satisfactorily, the minimum being four years of college in either forestry, wildlife conservation, or engineering, depending on the field of work involved. (The New York State College of Forestry at Syracuse University and the School of Conservation at Cornell University are the only two schools giving four-year courses in these respective fields in New York State.) It is the person with this type of background who will have the best opportunity for a job in conservation. Furthermore, he has a real opportunity for a career in our work as vacancies occur in the higher positions.

All of our positions, with the exception of non-skilled and certain jobs in the skilled trades, are "under Civil Service" and permanent appointments to them are made from eligible lists established as the result of competitive examinations. Of this group the position of Game Protector is one of the few that does not require any previous experience of any specific type and yet offers a well defined line of promotion. Appointments to it are made according to county and there are, on the average, three such jobs in each county (see page 34).

Jobs such as Forest Fire Observer, Campsite Caretaker, Game Farm Helper, Fish Hatchery Helper, and various types of unskilled labor jobs are, for the most part, seasonal or part-time in character. Persons living in the neighborhood of the work location are generally selected for these jobs. For the position of Forest Ranger, a year round job, selection of personnel is confined to the area in which the particular vacancy exists, since intimate knowledge of local territory is necessary.

Like any undertaking of serious intent and fruitful purpose, the work of this Department has to be organized into a variety of projects and units so that the total effort of everyone produces the desired result, and as efficiently as possible. We have certain jobs to be performed in a number of inter-related fields of work. To discharge a particular function, a certain number of employees with the required skills are used. The aggregate of these functions and programs and the people employed in them produces the far-flung Conservation Department organization. In spite of its size and variety, we need and can only use so many persons for so many jobs to achieve the purpose that we're in business for.

BUT even though the demand for jobs with us often exceeds the number available, employment opportunities occur with sufficient frequency that the hopes of the qualified applicant need not die. If we need what he has to offer we'll use it; if we can't, we're sorry.

—WILLIAM E. TINNEY,
Personnel Officer

DELAWARE COUNTY

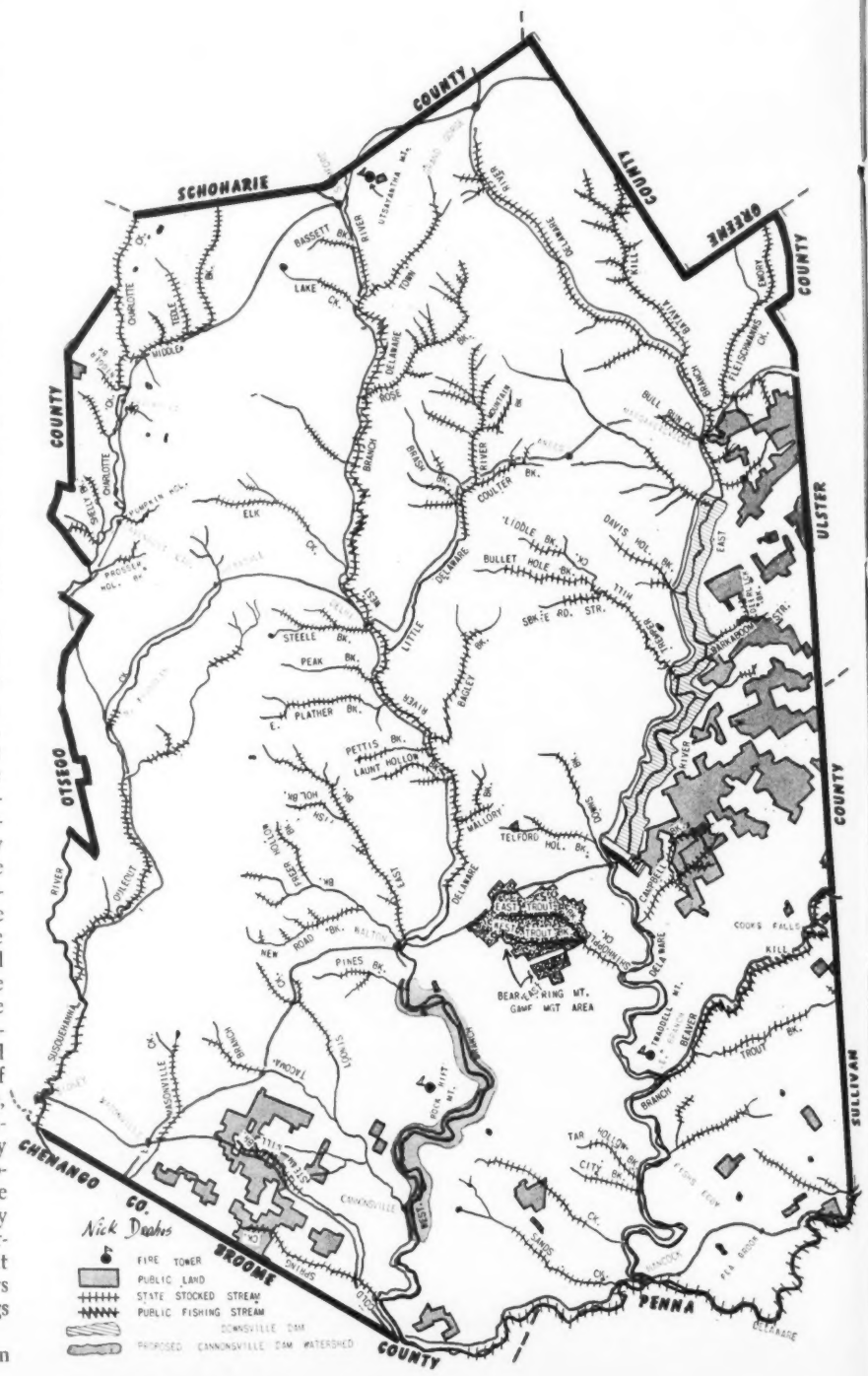
MAN found Delaware County completely forested. It was inhabited by certain forest creatures. Historians have recorded that the vast wooded areas abounded with game animals and birds, and were infested with beasts of prey. Panthers, "strong and cunning," were dreaded, as were wolves whose depredations involved even humans. Bear were "a terror and a pest," carrying away swine and "making havoc in the cornfield." To survive man had to make clearings in the forests to plant seed, and he had to combat raids by animals on his crops because his crops were life to him and his family.

Agriculture within wilderness, a heritage, was a problem to the settlers of the county. To me, a Game Manager, one of the most intriguing things about the county is that this relationship still exists, though of course to a lesser degree and in an altered sense.

The county is part of the Catskill Highland which has been deeply cut by streams over long periods of time. Even before this, geologists say, the county was covered by glaciers. These facts are largely responsible for the present physical features which consist of three ridges separated by the two branches of the Delaware River; responsible also for the long, narrow and deep valleys and for the tremendous difference in elevation — some 2,600 feet.

As previously mentioned, the county in its virgin state was almost complete forest land. Hardwoods, particularly white oak and maple, (with ash, beech, ironwood and chestnut also present), were the principal species. Of the softwoods white pine and hemlock were most important. Lumbering for the various wood products was a highly profitable and important industry in early times and many a romantic story can be told of the days when the rafts of lumber floated down the Delaware to the Philadelphia market. Villages, some completely abandoned and some still striving hard for existence, are for the most part all that remains of the once booming acid wood industry that produced large quantities of charcoal, wood alcohol, and other wood products. Of a dozen or so acid factories only one, at Horton, still is in operation. Tanneries too, although now completely non-existent, thrived as long as the supply of hemlock lasted to produce the necessary bark. It is difficult to justify the waste demonstrated by these operations, for hemlock is now valuable, but it was common practice in those days to strip the bark and leave the logs on the ground to rot.

Agriculturally the county has been



and still remains quite prosperous. One of the oldest products of the land, maple sugar and maple syrup, is still a major farm product. However, the leading farm crop is milk and milk products. For years the county has been the leading or, at least, one of the leading milk producing counties of the State. Those farms that do not produce dairy products grow some of the finest cauliflower brought to market. The climate is well suited for this cool-season crop and the location of the county, close to an almost unlimited market in New York City, has made the cauliflower business quite profitable. To a much lesser degree brussel sprouts, cabbage and market peas are grown.

Even though lakes are conspicuous by their absence, the water resources of the county have been important to its development and growth down through the years. Mention has already been made that the rivers represented the transportation link between the forest products and the lumber markets. For years these same rivers and lesser streams have provided the trout fisherman with the best there is in the State as far as this sport is concerned. But the value of these resources does not end here. In spite of the advance of civilization the elemental demands of people remain as elemental as ever, and we find our water resources becoming increasingly appreciated—and tapped.

DELAWARE County is now experiencing this. As the accompanying map indicates, a major face lifting project in the form of a New York City Water Supply Reservoir is now already under construction at Downsville on the East Branch of the Delaware River. It will back up about 22 miles of the river and will impound around 150,000,000,000 gallons of water. A flood control dam at East Sidney on the Ouleout is already in. Another dam, for water supply, may be built in the vicinity of Cannonsville on the West Branch in the not too distant future, and others may follow on other streams as either water supply or flood control projects. All of which tends to emphasize the importance of the water resources that not too long ago were considered unlimited and taken for granted, not only by sportsmen but by all concerned. There is little doubt, however, that these water impoundments will supply fishing, perhaps even more fishing to more people than is supplied by the undammed streams at the present time. But this is little comfort to those who consider the words *trout* and *fishing* to be inseparable.

Another factor that is always important in a discussion of water resources is pollution. Although this problem is commonly associated with industrial centers — and achieves the greatest notoriety in connection with such centers—various rural areas are finding that they have their pollution problems too, and that they are serious. Delaware County is no exception. Some of its waters, on a warm summer day, permit a visual census of their fish producing capacity in the form of dead fish, generally accompanied by a nauseating odor. Many of the villages do not treat their sewage but empty it directly into the nearest stream, and the small industrial concerns that do exist in the county very often follow the same expedient.

FISHING, only briefly mentioned so far, is one of the major recreational activities offered by the county. Some of the best trout fishing in the State is supplied by the two branches of the Delaware, the Little Delaware, the Ouleout, the Charlotte, and their tributaries. The Beaverkill, which traverses the southwest corner of the county, is known as a paradise for the dry fly artist and is now practically all State-owned or leased. Easements on most of the other streams are rapidly being purchased by the Conservation Department in order to keep these waters open to the public.

For the hunter (and thousands of metropolitan residents choose Delaware County as the place to qualify for this designation), there is good hunting in every township. Deer and grouse are found throughout the county and excellent grouse shooting is to be had in those covers in the north and northeastern sections. White rabbits, coming back in many areas, are providing good sport in the face of terrific hunting pressure. Cottontails in the more open areas and in the valleys attract a good many hunters (and beagles), while pheasants, formerly in fair numbers in certain areas, are now found only in small numbers and are pretty well limited to the narrow river valleys or the flatter open lands along the northern portions of the county. Waterfowl, although hunted along the rivers and in the marshes, cannot be considered as providing major sport. Of the furbearers the muskrat is probably the most important, although mink are commonly trapped and beaver are gradually, with the help of introductions, becoming more numerous. In the wilder sections, particularly in the southwestern part of the county, bear are not uncommon and trappers (if they want to) can still find bobcats.

The Conservation Department owns some 13,000 acres of public lands that are under the administration of the Division of Lands and Forests as reforestation areas; six and one-half million trees have been planted on these lands. In addition some 30,000 acres are owned as Forest Preserve lands. All of this State-owned territory is open to the public and is much used for hunting and other outdoor activities.

Bear Spring Mountain Game Management Area, located between Walton and Downsville and administered by the Division of Fish and Game, provides excellent hunting for deer, grouse and white rabbits on its 5,000 acres of public hunting ground. Here too is found excellent stream and pond fishing, the latter in man-made ponds.

Notwithstanding all the problems—pollution, erosion, abandoned land—that exist because of past uses and abuses, the outlook for the future is bright. When the Forest Practice Standards Act was passed in 1946, Delaware County became part of Forest Practice District I and its residents were offered the services made available by the Act. To date some 180 landowners, owning approximately 19,000 acres of land, have decided to go along with the idea of sound forest management by becoming co-operators. In 1947 the county became a Soil Conservation District which now has over 50 landowner-co-operators who, by using the services made available by the District and by working with its technician, are discovering, and demonstrating, that farming by using wisely what you have helps to guarantee both present and future dividends. And the Division of Fish and Game's Project 48-D, "More Cover on the Land," is fitting well into both these programs by helping to get trees and shrubs planted and woodlot fences built. It is not hard to see that game as well as agriculture should benefit, and the Delaware County Federation of Sportsmen's Clubs, recognizing that game is a product of the land, has decided "to help the owner help the land" and to promote better farmer-sportsmen relations by lending their support to these land-use programs.

WILDLIFE depredations still occur in Delaware County. The fox takes chickens, the bear fills up on honey, the raccoon raises havoc in the cornfields, and the deer eats cauliflower. But although the tradition of agriculture within the wilderness still runs strong, the advent of conservation is slowly giving it a new meaning, and a new significance for the future.

—ALBERT G. HALL,
District Game Manager

NEW CHESTNUTS

Young American chestnut tree—healthy, but living on borrowed time

EDITOR'S NOTE:

Every year the Department receives letters from people who have found native chestnut trees growing in the woods or fields. Frequently such trees are reported bearing a crop of chestnut burrs, and the question invariably is raised as to whether the chestnut is "coming back" after being practically extinct in the State for 30 years.

Ever since our chestnut trees started to die from the blight (about 1904), sprouts have been coming up from the old stumps and some of them have grown to eight or ten inches in trunk diameter before becoming infected. Nuts borne on these sprouts have been distributed, presumably by squirrels, and seedling trees have thus begun to appear again. Few of the seedlings ever reach six inches in diameter.

In the article contributed here, the author describes a chestnut-breeding project which represents one of the major efforts of our time in the field of biological research. While there will continue to be disagreement among both laymen and experts as to the future of the American chestnut, we feel that our readers will be interested in the story of this most extensive effort to repair or restore a great natural loss.

THE history of the American chestnut is too familiar to need recounting here. Suffice it to say that at present, for most economic purposes, the tree is entirely gone. The 50-odd years since it was stricken by the blighting fungus, *Endothia parasitica* (imported from the northern Orient), have seen a financial loss running into hundreds of millions of dollars, the esthetic loss, the altered balance of wildlife populations, and the threat to species allied to the chestnut such as the chinquapin, the post oak, and others.

There are two schools of thought with regard to the chestnut. One school holds that the problem is to replace it with other species and move forward in a changed situation.

The other school holds that a chestnut, perhaps a blight-resistant form of *Castanea dentata*, the American chestnut, can be restored. This school acknowledges that forests do not long leave vacant spaces; the spots formerly taken up by chestnuts are now full of oaks and maples and others. It further acknowledges that the mere ability to produce nuts is not enough. The American chestnut was a fast-growing tree, of straight-grained, highly rot-resistant wood, which developed in long, straight trunks that sawmills liked to see. No wild blight-resistant tree so far has exhibited these properties.

Leading exponent of the view that the chestnut—some kind of chestnut—may be restored to our forests is Arthur Harmount Graves, now of Wallingford and New Haven, Connecticut. In his early seventies, Dr. Graves has the springy step and optimistic plans of a much younger man, and personally does a great deal of the work on his chestnut plantation.

When the chestnut blight was first recognized as a serious threat to the species, Dr. Graves was teaching dendrology (the classification and identification of trees) at Yale. Assigned to take a census of diseased trees, he toured Massachusetts on a motorcycle, but his report indicated that in that state—quite a distance from the Bronx Botanical Garden where the disease was first found—so many trees were afflicted that a census was meaningless.

For several large estates in Pennsylvania and Delaware he undertook to apply to prized chestnut trees every means of protection known, sparing no expense; they died. A belt many miles wide across Pennsylvania was to be cleaned of chestnut trees, denying the pathogen a means of spreading to western Pennsylvania; before the cutting could be started, the disease had jumped the proposed boundary. But with the stubbornness of a man who will not quit in the face of adversity, Dr. Graves, then a young man, launched into an adventure of blight-battling which still goes on. Official status has been given to much of the work through the support of the Connecticut Agricultural Experiment Station and the U. S. Department of Agriculture. The latter agency sent a collector to Japan and China for three years, collecting nuts and cuttings for propagation. Some of this stock was used in Dr. Graves' work.

On some forty or fifty acres of land adjoining Sleeping Giant State Park, 15 minutes north of New Haven, Dr. Graves has planted every kind of chestnut that will grow—and some that are not supposed to. From such scattered reaches of the world as Italy, China, Arkansas and Massachusetts he has collected chestnuts. From time to time someone tells him that there are supposed to be Chinese or Japanese chestnuts that don't get the blight. These helpful persons are usually thanked courteously, but a bit absentmindedly; Dr. Graves has more kinds of chestnuts on his plantation than on any other in the world. There are chinquapins—bushes, spreading by underground roots, which the layman would recognize as related to chestnuts only by their leaves and the smallish nuts inside burrs; and there are the annual shoots of the Italian chestnut, which come up each year to be killed

FOR OLD

BY THOMAS J. PAGE

Agricultural Director, Radio Station WNBC

What happens to a tree attacked by the chestnut blight

back again by winter weather.

Among the many species, Dr. Graves has carried on almost innumerable cross-pollinations. Almost innumerable, because he has in fact kept a true scientist's record of every stage of his work; by reference to his maps and notebooks, the men around him could discover almost everything he knows about his plantation.

DR. GRAVES has collected pollen from the summer catkins, the male flowers of the American chestnut. He has sought out the most resistant trees he could find for this purpose, and with the pollen he has fertilized the bag-covered buds of the female flowers of Chinese, Japanese, and many other kinds of chestnut. He has even tried bagging the female flowers of oaks when they come in bloom early in the season, and pollinating them in summer when chestnut pollen is available. Botanically this is an outrageous idea. Dr. Graves thought it just might succeed, and oaks are, after all, close cousins to the chestnut (though the cup holding the acorn doesn't look much like the burr of a chestnut). He has had pollen shipped by airplane from foreign species which he couldn't get in any other way.

The question he is often asked is: "How do you stand, now?" In other words, has he found the kind of tree he is looking for and trying to develop?

He describes his ideal chestnut tree thus: it must be very strongly or completely resistant to the blight, preferably resistant to the several insects which attack chestnuts. It must grow fast. It must produce side branches only sparingly. It must produce sweet nuts, and it must be hardy in Connecticut—whose climate is typical for much of the former range of the tree.

Has he found such a tree? Yes, maybe. He has trees which up to now have been completely blight-proof. Not all their nuts have grown into blight-proof trees, indicating that he has not yet established his better trees as new species. That will take a longer time. But these blight-proof trees are not entirely satisfactory as timber trees. They make lots of branches where Dr. Graves wants a slim, true trunk.

He has, however, trees which grow fast and slim and straight, and make fine timber trees. He can show you trees 30 and 40 feet tall he planted not 20 years ago. They show a high degree of blight resistance, some of them overcoming the blight to an encouraging degree after being afflicted.

As to whether he has *THE* tree of the future in our forests, he doesn't fully know. There is no "secret" tree which he is waiting to present to a hopeful world; you can visit his plantation and look at anything that grows there, and ask any question you can think of about the trees.

Up to now some of his most encouraging crosses are between Chinese, Japanese, and American species. In each case he has selected trees of the best strains he could for breeding.

Incidental to his search for a useful forest type tree Dr. Graves has turned up some interesting details. He has found a way to keep blighted trees alive indefinitely, by inarching root shoots above the afflicted area. This assures him a supply of pollen from important trees. One tree he calls "The Great I-Am" (Mrs. Graves disapproves) has so many grafts it's hard to find the original trunk among them. And he has produced trees with fabulous nuts—nuts bigger than the Italian chestnuts on the market, and sweeter than the American chestnut which was considerably smaller.

From July to November last year WNBC, NBC's New York City station, carried an announcement daily, and several ten-minute feature broadcasts, soliciting leaves and also verbal reports of true American chestnut trees which had thus far resisted the blight. Several hundred responses came in. Perhaps ten or fifteen per cent were the wrong kind of tree, mistaken identity usually involving the horse-chestnut. But all leaf responses were forwarded to Dr. Graves for microscopic examination, and several promising leads have already been followed. *To this time, however, no unblighted American chestnut trees have been found,* although several have turned up which may be useful in breeding.

Dr. Graves terms this radio effort the most thorough combing the territory has had since the blight first struck. He is pin-pointing a map to locate interesting responses, and may end up with some kind of geographical pattern which could be of importance.

MEANTIME the work goes on. Dr. Graves doubts that he will ever live to see the chestnut in the prominence it once enjoyed, but he has the day-to-day satisfaction of seeing promising trees alive and strong in territory once devastated by the blight. And he has the satisfaction that comes from sticking to a conviction. Further, if a blight-resistant forest-type chestnut ever is developed, his work will have been part of the process which brought it about.

Scatter Shots

. . . NOTES OF GENERAL INTEREST

THOSE GOOD OLD DAYS

Under the above title, the office publication of the Gould Paper Company (*Plant Echoes*) recently ran a story which indicates (the illustrations to the right notwithstanding) that times have changed in the logging and pulp business. Most of the story is based on some logging and pulp contracts entered into by one Bill McCarthy in the early part of this century; the contracts were recently discovered in an old file.

In 1906 Mr. McCarthy, operating a camp on Tug Hill, undertook to cut and haul logs to the railroad at a delivered price of $2.50 per cord. (Rough estimate of present price: $20.) In 1913 he had a contract with Dexter Sulphite to "cut, peel, skid, haul and deliver 3,500 cords per year in 4, 8, 12, and 16-foot lengths in the Township of Osceola at a price of $3.75 per cord".

In the same year he had another contract, this with the Mac-A-Mac Corporation, for cutting and peeling on the Brandreth Estate in Hamilton County "hemlock, spruce, pine, balsam, tamarack and cedar at the following prices: $1 per cord when cut, peeled and piled; $1.23 more per cord when skidded ready for measurement, and road properly cut to the piles; $1.25 more per cord when hauled and loaded on the cars; $2 per cord for the hemlock bark."

In commenting on these terms, the Gould Company's paper points out that by 1918 a lumberjack was drawing $3.25 per day; now he gets $8.00. Now it costs $2.25 per day to feed a man; then it was 78 cents. And finally: "The old-time logging camp cost $900—try to build one today for less than $8,000."

The pulp business may have changed with the times but not the dams that are tripped to float the pulp down river. Etching by Benson Lossing in 1865; photo of a dam on the same site (Boreas River) 1949

DUCK FISHING

Lake Champlain finally had frozen —all but a few places where entering streams kept open a few square feet of water. Out a hundred feet from one of these spots, Paul Salerno bobbed for smelt, reflecting warmly that the toothsome fish never had run so big, mostly "Number Ones". He bent the lines back and forth, giving rhythmic life to the tiny gleaming minnows fifty feet below.

All at once one of the rigs nearly tore out of his hand. Minutes later astounded Salerno drew up through the hole a flapping, squawking golden eye duck. Deftly removing the hook and finding the bird unable to fly he took it home and fed it, but the shock of being taken for a smelt was evidently too much for the "whistler", which died several days later.

Our guess: it was munching minnows while attempting to weather a hunting accident from last fall.

WHAT TO DO WITH CARP?
ANSWER: EAT THEM

At the Sportsmen's Show in New York City, large plates of succulent smoked fish were exposed to the long arms of the milling horde. The plates were on the counter of the booth operated by this Department. The fish on the plates were smoked carp. The milling horde ate bushels of it, and milled happily on.

Since then we've had a number of requests for recipes, and to get one we went to Pete Miller, Superintendent of the Bureau of Inland Fisheries and a carp smoker and eater of long standing and discriminating tastes. His interest in smoking carp is only partly culinary; like most other conservationists, he is anxious to reduce the number of carp (which in some of our waters are too numerous for the good of other fish) by creating a popular demand for them.

Smoked Carp a la Miller

If possible, use carp from 10 to 20 pounds in weight. Hang the carp up by the head in a convenient place; cut the skin down each side of the back from head to tail; cut the skin all around the head and down the belly from the head to the tail. When this is done, take pliers and pull the skin off.

Cut fillets off starting at the head. By cutting along the outside of the ribs, you should have two boneless fillets. Wash the fillets in slightly salt water; place on table and cover lightly with dry salt; then let stand over night. Next morning rinse in clean water and drain a few minutes. Place on racks made of chicken wire and smoke for two hours. Then let the fire burn up for about an hour, when the fish should be cooked sufficiently. Fillets, if hung on hooks, would drop off into the fire before completely cooked, so it is better to lay them on a flat screen.

Green hard maple or green apple wood is excellent for smoking. A steel barrel would be large enough to smoke about three fillets at a time but for large quantities, a small smokehouse would be needed. Concrete smokehouses with a wooden roof and door are excellent to use. Angle irons should be set in concrete on which to rest chicken wire trays. The first tray should be about 2½ feet above the fire. If two trays are used, the second one could be about 18 inches above the lower one. A ventilator should be installed in the top of the building so it can be opened to allow a draft when the fish are being cooked. It should be closed, of course, during the two-hour period of smoking which precedes the actual cooking of the fillets.

After two or three experiments you can decide whether to use more or less salt. Fish of about the same size should be used so that all will be done at the same time. It might be well to turn the fish once during the smoking.

ITALIAN FORESTERS

This photograph is taken from our 1901 Annual Report, in which it was published without comment other than the title

LOST HUNTERS

Not many years ago, anguished parents and all nearby sportsmen combed the wild area behind South Colton for two lost deer hunters. The youths, teen-age brothers, were never found alive. Aiming to prevent further tragedies of this type, the Potsdam Fish & Game Club recently experimented with search tactics for lost persons, combining an airplane, smoke signals, and searchers who were directed by walkie-talkie radio.

Protectors Sixbury and Campbell, "lost" several miles back in, built a smudge which was quickly spotted by the pilot (who is on call during the hunting season). In no time they were eating rations from an emergency drop package, and not long after that were reached by the radio-equipped rescue party.

The experiment proved that if such a search group is organized with fire-department alertness, a lost party can become a found party in a short time, given halfway decent weather.

HOW HUNGRY CAN A FISH GET?

How hungry? According to Paul Chapman, Mike Russo of Glens Falls has the answer to that one.

Russo recently called on his friend, Mike Hessney of Indian Lake, with the idea of doing some ice fishing. Hessney, who was to supply the bait, was not immediately available, but Russo went out on the ice to dig the holes so that all would be ready when the bait and his partner arrived. Russo became impatient, however, and tore a white button from his shirt and used it as bait. When Hessney finally got there, Russo had taken five nice perch on the button.

FIGHTING, NOT DANCING

Not enough food to go 'round. The photograph (taken last winter on Gardiner's island) shows the reactions of six deer when confronted with this situation

AXE GAUGES

The first axe gauge that I can remember was a brass slug, one end shaped and stamped S for summer, the other W for winter. We ground our axes accordingly. I have seen others, of various shapes and materials. The one I have now, a gift from a Canadian friend, was figured in my recent story on the "Care and Use of the Axe." THE CONSERVATIONIST for February-March, 1950 had scarcely hit the mails before letters began to come in, from a boyhood friend now living in Jersey, from a North Country woodsman, from a lad from New York City, from a subscriber in South Carolina, and from plenty of others. All asked the same question: "Where can I buy an axe gauge?" Very embarrassing—because I didn't know. A quick canvass of the better-known axe manufacturers brought just one answer: "We don't make them any more".

But we won't fail our subscribers. We are arranging to have a supply of axe gauges made up. If you want one, drop a notice to THE CONSERVATIONIST and we'll let you know when and where they can be purchased.

—DAVE COOK

2 FOR THE PRICE OF 2

It's no news when a sportsman forgets to purchase a hunting and fishing license, but it is news when he "forgets" and purchases *two*. But let District Game Protector Ray L. Burmaster, Saranac Lake Division, tell it in his own inimitable manner:

"I am enclosing citizen-resident hunting and fishing licenses 90038 and 90123, both issued to Louis R. Wagner, Ray Brook (Essex County) for the year 1949. Mr. Wagner was in the office here the other day to make application for his 1950 licenses and in looking through his wallet for his old license to use as a guide, found to his surprise that he had not only one, but two. He told me that he had no recollection of purchasing the license from me on January 6, but does recall the license he purchased on June 1st.

"He was a little annoyed with himself and inclined to put up an argument for a refund. But he left in a jovial mood after I told him I thought he rated a story in the magazine as being the year's most zealous contributor to the Conservation Fund."

FISH FROM LAKE ONTARIO

Addenda, Lake Ontario (February-March issue): A total of 2,465,283 fish were taken by commercial fishermen from Ontario in 1947. These included 614,504 lake herring; 379,032 whitefish; 353,248 bullheads; 314,958 blue pike-perch; 153,615 yellow perch; 134,755 carp; 64,410 lake trout; 7,103 sturgeon, and 443,658 miscellaneous fish.

WOTTA FROG!

In connection with the article in this issue on Schroon Lake, we herewith offer a report received from Captain George Risedorf of the Schenectady Fire Department, who proceeds to put Mark Twain in his place when it comes to tall tales about frogs:

"While fishing one of the deeper holes of the Schroon headwaters on a hot day last August I was troubled with a bunch of small trout, pecking away at nearly everything that I offered as bait. I knew that several good size trout lay in under the overhanging bank but try as I might, I couldn't get my bait to them without these little trout stealing my offering. I caught a few of them, let them shake off the hook and go back into the hole.

"I had just caught another one about four inches long, when it happened.—The fish dropped off the hook into a half-inch deep riffle, flopped around a bit and just as I was about to get it to put it back into the hole, a frog came jumping over from some place, grabbed that small trout in his mouth, shook it as a bull dog would, tossed it further up the bank, went right after it, shook it some more—so hard that it went back into the Schroon. As quick as a flash, the frog went into the water again and came back with the trout in his mouth. He sat there for a second or so and then spit out the fish. He then took the fish in his mouth, head first, and started forthwith to down it.

"It took about 15 minutes for the frog to swallow that fish. But down it went, until there was nothing showing but a bit of the tail. The only reason the frog didn't get more of the fish down was because there wasn't enough frog; the skin at his rear end was pushed right out like a small balloon from the fish's head."

Capt. Risedorf is a thoroughly reliable man. Furthermore, he has photographs of this incident.

GLENCORA WESCOTT

Glencora Wescott, widow of the famous guide Chan Wescott, is the grand little conservation-minded lady of Cranberry Lake where she has been a resident for well over 50 years. Now 84 and still enjoying vigorous health, for many years during the early part of her married life she pioneered the Adirondack wilderness, accompanying her husband on camping trips into the little known and remote back-woods country of St. Lawrence County.

Equipped with the barest necessities in the way of camping equipment, much of it of their own handiwork, occasionally a plain roll or canvas for shelter, more often than not a hastily constructed lean-to with spruce boughs for mattresses and a plain tin can with chord wick attached for kole-oil lamp—such was their wilderness set-up. A crack shot with a Winchester and adept in woodcraft, in her younger years Glencora was able to stalk, kill and dress out a deer as well as any man. They just don't make them that way anymore.

In her own little way, Mother Wescott has done much to foster the principles of Conservation through the years up there. Possessed of the courage of her convictions, she speaks her mind if and when the occasion arises. Many a short trout owes its life to her careful observations at the iron bridge below the dam—and many a fisherman and hunter has been put to shame and told in no uncertain terms to *mend their* ways, or else. None takes offense, and most hang their heads in shame, impressed with the resolute spirit of her conservation-minded philosophy.

—M. E. GROUT

CONSERVATION COURSE

Forest Ranger Claude Van Wie of Schoharie County reports that a ten-week course in conservation and wildlife, just completed at the adult night school at Middleburg, had an enrollment of 37 of whom 25 received certificates for perfect attendance and completion of the course. The Division of Conservation Education furnished literature and movies and support for this program.

A similar course is under way at the Richmondville Central School the Ranger adds.

BEAVER TAKE BY COUNTIES, 1950

County	Pelts Tagged	Trappers
Albany	7	5
Broome	25	18
Cattaraugus	158	104
Chautauqua	258	148
Chenango	36	29
Chemung	29	17
Clinton	119	42
Cortland	18	14
Dutchess	19	15
Erie	18	14
Essex	132	57
Franklin	358	115
Fulton	56	26
Greene	13	7
Hamilton	317	103
Herkimer	179	56
Lewis	184	70
Livingston	3	2
Madison	33	24
Oneida	60	27
Onondaga	8	5
Ontario	8	4
Oswego	54	24
Otsego	50	33
Putnam	12	9
St. Lawrence	406	127
Saratoga	52	42
Schoharie	21	13
Schuyler	24	14
Steuben	65	42
Sullivan	44	29
Tioga	19	15
Tompkins	10	8
Ulster	36	19
Warren	130	43
Washington	17	11
Westchester	1	1
Wyoming	23	13
Yates	18	11
TOTALS	3,020	1,356

OTTER TAKE BY COUNTIES, 1950

County	Pelts Tagged	Trappers
Dutchess	3	3
Essex	2	2
Franklin	7	6
Hamilton	5	5
Herkimer	5	5
Lewis	3	2
Putnam	1	1
St. Lawrence	11	10
Warren	3	3
TOTALS	40	37

IT CAN BE DONE

The Olean Rod and Gun Club, organized in 1922, is an outfit that really gets things done. Here's what the club managed to do *in one year:*

Increased its membership from 14 to 345; obtained 116 acres of property; cut and sawed over 5,000 feet of lumber for a club house; excavated a basement for the club house; erected and put to use a rifle range; dug a pond which is full of water and ready for fish; completed a parking area; sponsored and organized a junior club for boys 15-18.

Says Fred J. Carver, vice president: "Keep the interest and enthusiasm high and you will be successful."

For your Information

FOR BETTER FISHING

The Department's five salvage crews —the men who remove fish from reservoirs and other waters closed to public use and transfer them to suitable open lakes and streams—last year netted 43 waters in 24 counties and stocked 161 waters in 37 counties with 173,231 pounds of food and game fish.

The salvage crews, which handle a large part of the Department's stocking program for warm water species, also took a total of 51,682 pounds of undesirable fish which were destroyed, including 26,266 pounds of carp. Snapping turtles to the number of 319, weighing 3,003 pounds, (the largest 42½ pounds), were destroyed. Total pounds of all species handled by the salvage crews was 224,913.

TOO MUCH PROTECTION?

We have been asked by subscriber George Michael to comment upon the following note, which appeared in a recent issue of The Ohio State Journal:

"The Wildlife Council of the new Department of Natural Resources of Ohio has taken a wise step in its decision to open all state-owned lakes to liberalize fishing during the 1950 fishing season . . . meaning there are no closed seasons on any type of fish, no legal length limits, no bag limits."

Ohio is proceeding in a very commendable way, having made careful studies. But they are liberalizing from much *tighter* protection on pan fish than New York has. Most of the top species in their catch (bluegills, sunfish, rock bass, crappies, bullheads, yellow perch) are *not* protected in New York. Some fish need no protection. But we can prove that others do; for example, the Chautauqua muskalonge, and black bass in many of our clear lakes where they are readily visible when spawning.

Liberalizing from our present already liberal fish laws needs to be done carefully. Strange as it may seem, our Department is criticized more for *not* sponsoring further restrictions than for imposing too many.

—John R. Greeley,
Chief Aquatic Biologist

FOX SQUIRREL

To the Editor,
The Conservationist:

Recently a lad trapped a fox squirrel in one of his skunk sets a few miles east of Ithaca. This, to my knowledge, is the first authentic record of central New York in many years. We know these big rusty-bellied (underside of tail is same color as belly) squirrels occur in the Jamestown area; there are few records with positive identification from other parts of the State.

I shall be glad to hear of the positive occurrence of these large squirrels in other parts of the state. It would be appreciated if those who have authentic records will communicate to the editor or the undersigned.

—W. J. Hamilton, Jr.,
Fernow Hall, Ithaca, New York

WHITE PHEASANTS

The photograph above was sent to us by Sidney Mawson, President of the Fayetteville and Manlius Rod and Gun Club. We turned it over to Earl Holm who, as Superintendent of The Bureau of Game Farms, has had quite a lot to do with pheasants, and he comments as follows:

From time to time individuals hatching and rearing small numbers of pheasants are impressed when a white or black chick pops out of an egg in a hatch of otherwise normally colored birds. This is not at all unusual, however, and might well be expected when we consider that most pheasants that are propagated today for restocking are basically "mongrels." As a matter of fact, it would probably be more difficult to find pure Chinese or pure Mongolian pheasants in this country than it would be to find pure whites that are guaranteed to breed true.

Today at the Delmar hatchery about five or six white chicks appear out of every 100,000 hatched, with about twice that number of black ones. Almost all of the pheasant fanciers now have white pheasants in their aviaries, and they are offered for sale. Some of the hybrids or white-x-ringneck crosses run from pure white, pied, to a blond or dilute color phase. There is a rather indefinite gradation in plumage coloration from pure white to the normal ringneck coloration in such crosses.

It might be said that a pure white pheasant is common, but a true albino is a comparatively rare occurrence.

SPENDING TO SAVE

IN the beginning, the State's game farm program was based on the philosophy that the quality of the birds and their inherent ability to survive when restocked depended on the amount of good land or range on which the birds were reared. While this is contrary to the program of most other states as well as commercial game farms, it appears to be as sound today as in 1909 when our first farm was established. There is no denying that basically pheasants are a crop of land.

Until recently, cultivation practices on our game farms were directed toward providing a good cover crop on the fields on which the birds were reared. The three- and four-year crop rotation program is essential, not only from the standpoint of disease prevention, but because the birds in one season completely eat off the forage on the range, and only weeds are produced the following year. Under this program, in the past, small grains such as wheat and oats were sown only as a nurse crop to protect the more delicate clovers and grasses which three years later would provide suitable range for the birds. Harvesting these small grains without adequate machinery or proper storage facilities was a losing proposition.

But with the acquisition of the John White Game Farm—on a site selected because of the high quality of the soils—there was an opportunity to show a profit in growing and harvesting small grains. A small combine used in harvesting and threshing small grains costs about two thousand dollars. It takes a lot of wheat to pay off that initial cost alone, but last year about three-quarters of a million pounds of grains purchased for bird feed cost almost $39,000.

On the other hand, the data covering crops harvested show the following totals: barley, 500 bu; corn, 3,504 bu; oats, 3,284 bu; rye, 120 bu; and wheat, 6,909 bu. With the price of wheat at about $2.00 per bushel, this crop alone was worth almost $14,000. At that rate the new farm machinery soon pays off.

The farming activities by no means represent a mechanical process of dragging a plow thru the ground behind a tractor or planting the seed and waiting for it to grow. There is far more to it than that. Considerable satisfaction is derived from having complete soil analyses in order to make the proper application of fertilizer, not only to assure a good crop but to provide the nutrients in the grains that will produce the most sturdy birds.

The men who "farm" our game farms get a deep thrill out of this work. How otherwise can one explain the fact that tractors are threading their way to and fro across the field at midnight with lights burning brightly? The men aren't required to work all day and half the night too. The money was spent to make the farms as self contained as possible and these men are meeting the challenge—because they like it, and because they feel sure that better birds will be produced for less money.

—Earl Holm

GAME PROTECTOR EXAM

If you have had a license to hunt and fish for any four of the last ten years, or if you can demonstrate evidence of your interest in practical wildlife conservation for a similar period, you will be able to meet the training and experience requirements for the Game Protector examination to be held on May 27, 1950. If you have completed two years of college study in wildlife management, forestry or the natural sciences this training may be substituted for three years of the required four.

The examination is to be held for all counties in the State except Cattaraugus, Columbia, Erie, Livingston, Monroe, Suffolk and Ulster. Appointment to a position in a particular county will be made from the eligible list for that county. Immediate appointments are expected in Washington, Tompkins, Yates, Otsego and Essex counties.

The salary for the position of Game Protector begins at $2,346 and annual increments are given for the first five years of service until a maximum of $3,036 is reached. The physical requirements of the position call for a minimum height of 5'9" in bare feet and a minimum weight of 160 lbs. stripped. You must also have 20/40 vision in each eye without glasses.

In order to be eligible to enter the examination you must also be at least 21 years of age and must not have passed your 36th birthday on the date of the written examination. Time spent in military duty can be deducted from actual age for the purpose of meeting the maximum age requirements.

Copies of the announcement for this examination and application forms may be obtained by mail or in person at the following offices of the New York State Department of Civil Service: Governor Alfred E. Smith State Office Building, Albany 1, New York; or 39 Columbia Street, Albany, New York; or Room 2301, 270 Broadway, New York 7, New York; or Room 302, State Office Building, Buffalo, New York.

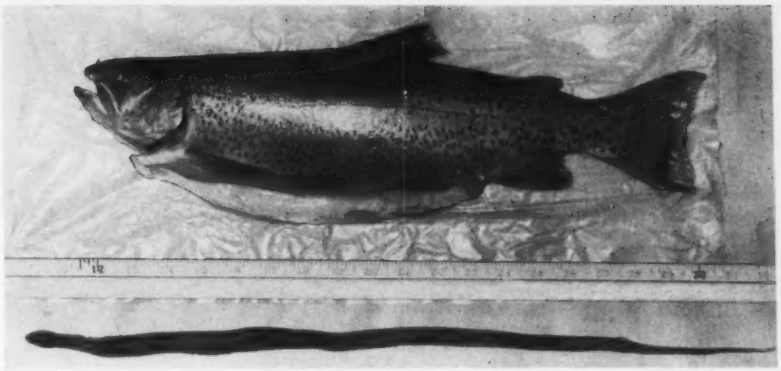
Applications to take the examination should be completed and returned to the Civil Service Department by April 28, 1950.

L. J. C. D. I. C. C.

With those initials the State Junior Chamber of Commerce's conservation committee has launched a State-wide project to sell memberships in the Let Jaycee Do It Conservation Club.

The committee, headed by Bob Ripberger, plans to raise $10,000 to purchase and equip a 32-foot tractor-trailer, converting it into a complete traveling conservation exhibit. Recognizing the need for expanded conservation education, the committee feels that it can do a big job in this field, and completion of the project will be culminated by giving the trailer to the Conservation Department for use in promoting its Division of Conservation Education program throughout the State. It is hoped that the funds will be raised by the end of April.

There have been some good ideas lately about promoting conservation education, but to date we haven't heard of a better one than this.



RAINBOW SNAKE-EATER

The photograph above was sent to us by Bob Reed, President of the Malone Fish and Game Club. Each year the club has an exhibit at the Franklin County Fair including, among other things, glass tanks containing game fish of various species. Last year, when the shipment of large rainbow and brown trout was received from Charlie Deuel at the Department's Lake Clear Hatchery, one of the rainbows was dead. The photograph shows that it was 19 inches long, and it weighed four pounds.

An autopsy revealed a 22½ inch garter snake in the trout's stomach. No doubt the snake had been swallowed recently in the open pond at the hatchery.

TED TOWNSEND

One of America's best-loved outdoorsmen—and certainly its best known Game Protector—died a few weeks ago with his boots on. He was T. Edward Townsend of White Plains. Since 1915 he had been Warden of Westchester.

Ted Townsend had an enormous zest for living; so he found out why a spring bubbled, how the deer lived and the flying squirrel, the black duck, the song sparrow, the trout, the tuna, the striper, the Mayflower, sycamore, the honey bee.

His curiosity was so insatiable, his enthusiasm so boundless that Townsend's personality became epidemic.

Westchester is a pretty county. A great many of its people seem to find unusual pleasure in its outdoors. It's nice to think that Ted Townsend probably had much to do with the shaping of this happy philosophy. It's nice to *know* that Man *can* live more pleasantly, more neighborly, when he learns to taste properly, temperately, of this earth's wine.

THE DELHI HEARING

On March 22 a public hearing on the proposed construction of the so-called Cannonsville Dam, (on the west branch of the Delaware), was conducted by John C. Thompson, Executive Engineer and Secretary of the Conservation Department's Water Power and Control Commission. The hearing was held at Delhi, in Delaware County.

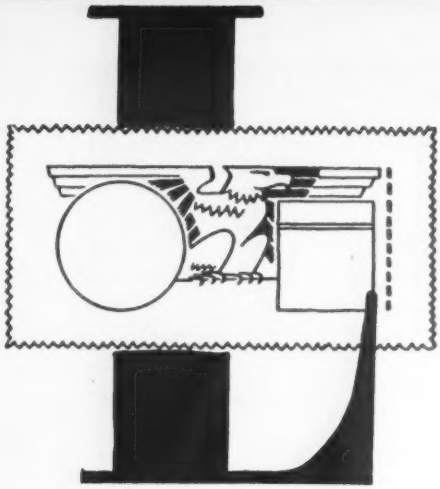
The proposed dam and reservoir would be built by the City of New York to provide an additional source of water supply, and the purpose of the hearing was to give all persons, corporations or municipalities—who might be affected by its construction—an opportunity to air their views. Many objections were filed with the Commission. The hearing, adjourned at the request of counsel for certain of the objectors, will be resumed on April 25, and at its conclusion the project must then be presented to the Water Power and Control Commission for consideration and for such action as it may decide upon.

Although no decision has yet been reached with regard to the Cannonsville Dam, of great interest to sportsmen is the fact that at the hearing two definite statements were made and entered in the record:

(1). Representatives of the City of New York agreed to a plan for the construction, at City expense, of barrier dams to protect the fishing in tributary streams above the proposed reservoir, wherever such dams can be built on City-owned property. Representatives of the City's Board of Water Supply also agreed to screen the outlet works of the proposed dam to prevent fish from entering the aqueducts. Further, they agreed to the release of enough water from the reservoir, and from certain similar projects now under construction, to maintain a minimum flow in the streams below these reservoirs.

(2). Representatives of the City of New York officially stated that the City is no longer interested in the development of the Little Delaware, the Beaverkill or the Willowemoc as sources of water supply. It should be noted that this statement represents the position of the City's Board of Water Supply. In the event that the City should reconsider the matter in the future, it would still be necessary to obtain approval (which has never been granted) from the Commission to use these streams, and in addition a public hearing would be required.

In view of the above official statements, sportsmen are assured that if the proposed Cannonsville dam is eventually approved, the interests of fishermen will be protected. And they can rejoice in the fact that the Little Delaware, the Beaverkill and the Willowemoc will be preserved for trout fishing.



Letters to the editor

PHOTOGRAPHER STODDARD

Dear Editor: Your article on Seneca Ray Stoddard in the February-March issue of *The Conservationist* brings back priceless memories. Mr. Stoddard published a yearly road map of the Adirondacks showing the road conditions and the best places to stop from Albany to Canada. In order to report the road conditions he traveled over all the roads in the Adirondacks twice each year and it was my privilege to act as his chauffeur in 1908-1909. At that time he had a 1907 model (N) Ford—and believe me, the cars and the roads have changed since that time.

One memory that stands out in my mind, that I believe would be of interest to your readers, is that of a mountain lion mounted on a sort of back bar behind the office desk in the Carson Hotel between Schroon Lake and Elizabethtown. As I remember, I was told this lion was nine feet from tip to tip and was killed by a native just back of the Hotel. I was told later that the Hotel burned down twice and each time the native who had killed the lion saved it from the fire. But when the Hotel burned the third time the native had died and the lion burned with it.

Except for seeing the lion myself on my trips with Mr. Stoddard this story is hearsay, but I believe some of the older residents of that section could give the exact details. I think they should be in the records.

Howard L. Berry, Schenectady

FIREARMS IN NEW YORK CITY

Dear Editor: The latest *Conservationist* carried an inquiry from a reader regarding the age requirements for purchasing a firearm in a New York City sporting goods store.

There are no local ordinances, as you suggested, that affect the sale of rifles or shotguns in the City of New York. The same requirements hold true as for the rest of the State—that the purchaser be sixteen years of age. Naturally when it comes to handguns, it's a horse of a different color.

N.Y.C. ordinances do relate to the purchase, sale and use of airguns. No airguns (any gun using air in any way) may be possessed, sold, or used in the city. This is covered in the Administrative Code.

Naturally too, ammunition is the same thing. Sixteen years of age is the requirement, for buying all types of ammunition.

The problem put forth by the writer of the letter is one that often occurs in the city, simply because many of the city dealers haven't the slightest idea of what the law says regarding firearms and ammunition. There are a few places, however, that "make their own rules"; I do remember that at one time, one of the largest dealers in the country decided upon the age of 17 as the minimum (in N.Y.C.).

Thought you'd be interested.

Arnold Hayne, Brooklyn

• *We are; and thanks.—Editor*

NETS IN ONTARIO

Dear Sirs: I like to fish in Lake Ontario up around Fox and Grenadier islands, as there is a lot of good bullhead fishing up there and it pays to make the long trip to do a week-end of fishing. But I find that there are some net fishermen there who seem to have little or no consideration for boatmen. They put out their nets with almost no markings to show people where the nets are, and if the water is a little rough the nets cannot be seen until the boat is on the net. This is an easy way to damage both net and motor.

Isn't there some way to get these net fishermen to put larger marking buoys on these nets?

George V. Curtis, Syracuse

• *Except for certain times and places, the law prohibits the operation of nets within one-half mile of the shores or islands of Lake Ontario. Nets placed so far off shore ordinarily require sizeable buoys—so that they may be located and operated efficiently by the fishermen themselves. Therefore the Department hasn't considered it necessary to stipulate a required size for buoys and markers.—Editor*

OTSEGO WHITEFISH

Dear Editor: With regard to the whitefish, Dr. Jones (Otsego Lake, Dec.-Jan. issue) says it is not caught by conventional methods and describes snatching for them over baited buoys. I would like to state that in recent years a much more sporting method of taking them has become fairly common. This method is trolling with spinners or a small spoon in much the same manner as trolling for lake trout. Sometimes we use a Seth Green rig with Bear Valley, Colorado, or other type of small spinner, with nylon leaders off T swivels spaced about five feet apart. At other times we use a Geneva 22, Daredevil or other type of spoon with copper line and a long nylon leader.

The first thing is to locate the school of whitefish, the depth at which they are feeding, and then stay with them. Usually this is over a very small area of water. Many limit catches are taken in this manner—and often when the men snatching on the buoys are having no luck.

Richard W. Owen, Springfield Center

TO THE SCHOOLS

Gentlemen: In the February-March issue, under Letters to the Editor, I noticed the one "We go to School" on page 37. That is a nice gesture on Mr. Baker's part.

I belong to several fish and game clubs in the lower section of the State. The Peekskill Club has, for the past two years, sent *The Conservationist* to all the schools in the immediate vicinity, of which I think there are ten or twelve. We, as a group, believe that the magazine can do a great part in instilling conservation in the young people.

George F. Strong, Peekskill

• *We are glad to report that a large number of clubs appear to believe—and do—the same thing.—Editor*

Dear Sir: Your magazine is outstanding. I want it on file in the library of my child's school and enclose a subscription for that purpose. I suggest that other conservation-minded mothers may want to do the same thing, or perhaps subscribe for their school through the P.T.A. group.

Mrs. Richard M. Wilson, Penfield

UP NORTH, THEY'RE TOUGH

Dear Editor: Last summer, while on a two-week camping and canoe trip through the Adirondacks, we had the opportunity to climb Blue Mountain. We finally reached the fire tower and all agreed that it was quite tough going in many spots. On our way down we noticed track marks and scratches on the rocks along the path and recalled that we had seen quite a load of lumber and bricks up at the lookout's cabin.

In view of what we believe to be hoof scratches in the rocks, it is agreed that an animal must have been used to drag the stuff to the top. He must have been awfully rugged!

Jean B. Hor, Stratford, Connecticut

• *Just a run-of-the-mill Adirondack horse.—Editor*

TAKE THE CHILDREN

Dear Sirs: I am planning on taking my twelve-year-old daughter with me on fishing trips this summer. I would like to know if it is necessary to have a fishing license for her.

George V. Curtis, Syracuse

• *No fishing license required for persons under 16 years of age.—Editor*

EXPERIMENT ON VALCOUR ISLAND

Dear Editor: In regard to the article in the last *Conservationist*, I would like to make this comment: The experiment that you carried on was not conclusive.

You set out to prove what has been proved a hundred times; that an uncontrolled increase of a natural species would result in its natural decline. You would get somewhere in your experiment if you would continue with the control of predators and then in the fall allow the hunters to take the place of predators. In that way you would get information that had some point to the hunting picture.

Rev. Raymond Tennies, Canaseraga

• *It is probably true that if hunting had been permitted after the game species had become abundant, the general level of abundance would not have become so high, nor would the decline have been so severe. Nevertheless, it seems evident that the level of abundance so achieved would not have justified the cost of the predator control operation, and might well have occurred without it. It is estimated that, to accomplish a similar degree of predator control throughout the State, would cost at least $10,000,000.—Editor*

HOOT FOR SEAGEARS

Dear Sir: I always enjoy reading *The Conservationist* but I got a special chuckle from Clayt Seagears' article "About Owls", in the February-March issue. The sentence: "Furthermore, the barnowl's furculum is ankylosed with its sternum" struck me so funny, although I hadn't the slightest idea what it meant. I wonder how many others did as I did—reached for a dictionary.

This is my idea of what it means in English: "The united clavicles or wishbone is knit together with the breast bone, forming a stiff joint."

Perhaps that chair bottom is well-glued by now, so that the author may consult his dictionary and confirm my interpretation.

Mrs. Kenneth Norwood, Eastport

• *Owlologist Seagears says you've done an excellent research job; his dictionary is now stuck to the chair bottom.—Editor*

TURTLE TALK

Dear Sir: As a subscriber of your wonderful magazine I came across an interesting article by Clayt Seagears in the August-September, 1949 issue, entitled "The Snapping Turtle." Your recipes as listed in that article are O.K., as we have tried similar versions. But for real snapping turtle meat there should be only one end, and that is fricasseed.

I presume your turtle is prepared for the pot as per Clayt's suggestions. Then all you must do is roll the pieces of meat in cracker crumbs and egg batter and fry in crisco or some similar shortening—just as you would chicken, rabbit, squirrel or what have you—until the meat is well browned and looks ready to eat. But wait; this is where the pressure cooker comes in. You'll want to tenderize the meat, so stack it neatly in the cooker and set at ten pounds pressure and cook it another 10-15 minutes after your pressure is up.

Richard G. Pascoe, Olcott

Dear Editor: I especially enjoy the articles by Clayt Seagears. His article in the August-September, 1949 issue on the snapping turtle I found extremely informative and have, since reading, had turtle soup, stew, and fricassee—better than chicken.

John H. Parsons, Rome

TURTLE TRAP

Dear Sir: On page 41 of the August-September 1949 issue you depict a turtle trap which apparently is covered with chicken wire mesh. I should like to know if such a trap is legal in view of the law on nets calling for two or three-inch mesh size. Is some exception allowed for a turtle trap?

The usual method used by my friends who fish for turtles is to use a baited hook, usually baited with beef flesh or horse heart. Those who have access to young woodchucks use that with excellent results. You mention the trap pictured as standard for game farms of the State, but they are allowed considerable leeway in regulations (and properly so) that we licensed fishermen are not permitted.

Thomas DeMan, Depew

• *The mesh sizes prescribed by the law apply only to the taking of fish; if fish should be taken accidentally in your turtle trap, they must be "returned to the water at once without unnecessary injury."—Editor*

SUFFOLK DEER

Dear Editor: When it was written of Suffolk County (Dec.-Jan. issue) "there is not much enthusiasm for an archery deer season" that was absolutely correct. I get around in Suffolk and very few of the sports with whom I have been in touch favor archery as a means of decimating our excessive deer population; on the other hand those packing rifles comprise a majority far out in front for their way of gaining control of the situation.

The idea of an open season is to reduce the number of deer roaming Suffolk, to the end that the farmers and the home gardeners shall be relieved of sustaining each year heavy damage to their crops. The desired result never would be achieved by sanctioning an archery season.

Walter M. Gordon, Eastport

• *Probably not. But we hate to think what the results would be if your "rifle-packing majority" got loose; Suffolk is flat and heavily populated.—Editor*

CORRECTION: WHITE BASS

Dear Sir: In the December issue of *The Conservationist*, page 31, it is stated that the white bass (*Lepibema chrysops*), does not occur in Lake Champlain or along the St. Lawrence River. May I take the liberty to inform you that it does occur in the St. Lawrence River; it has been found at St. Vallier near the southern shore of the St. Lawrence River, 20 miles below Quebec City. Also it has been collected farther inland, namely in Lake St. Peter. All those collections were made in 1944 and 1946.

Those facts have been reported by Vadim D. Vladykov, in the *Naturaliste Canadien*, Quebec, number 7 and 8, 1947. According to Dr. Vladykov, who has made an extensive work in the waters of the area, the white bass is found more or less regularly in the St. Lawrence River, possibly a penetration from the Great Lakes. St. Lawrence River fishermen report that they see a few of them every fall.

Charles Gauthier, Biologist,
Quebec Department of Fish and Game

• *Thanks; we stand corrected.—Editor*

ALVAH DUNNING, FAMOUS GUIDE

Portrait at left (by Stoddard) courtesy of Judge O. Byron Brewster; Photograph of Dunning's shack on Eighth Lake, courtesy of Mr. Russell M. L. Carson.

WINTER DEER

Dear Sir: My husband and I have enjoyed reading *The Conservationist* for several years. We had the unexpected pleasure of seeing a picture of my brother, Victor Simons, on page 17 in the February-March issue. He is holding a small deer.

My brother was born and brought up in Lake Pleasant, Hamilton County. He is very familiar with the hard winters they have up there, and often tells us how hard it is for deer to live during a bad ice storm or very deep snow. He gives the State a lot of credit for managing our deer herd.

Mrs. Roy J. Leslie, Johnstown

MIX-UP IN TIP-UP

Dear Editor: Today I received your Department's list of open and closed waters for tip-up fishing. There is one question I'd like answered.

You have Deer Lake and Fly Lake (or Pond) listed as one and the same. I was always under the impression that Deer Lake is on the left of Route 17 going toward New York City, and that Fly Lake is a few miles further on the right side.

R. C. Walker, Endwell

• *A mistake in the order; you're right.—Editor*

BIRD SALVAGE

Dear Editor: Recently, The New York Times published an account about the dovekies killed by oil off Jones Beach. Shortly afterward I visited Westhampton Beach, another section of our Atlantic beach on Long Island, and found not only numbers of dead dovekies littering the beach, but several living birds at the edge of the surf.

Apparently these birds were washed up all along the south shore, for Westhampton Beach is some 60 miles from Jones Beach. There must have been many hundreds of the little birds killed by the oil. I caught several of the disabled birds and tried to wash the oil off their wings and bodies. It had the consistency of tar, but dissolved readily in benzine. I then removed the dissolved oil with soap and water. The birds scurried into the surf upon being released. I have no way of knowing if they were able to fly after my decontamination treatment.

I found a razor-billed auk among the dead birds, and also a grebe. In the picture (above) I have the grebe and five dovekies. The one in my hand is alive, and I'm dipping his wings into a soup dish filled with benzine. There is soap and water in the pail. I found these birds on January 23.

Murray Osmond, Port Washington

• *The oil referred to is pumped out of the bilges of ocean-going vessels.—Editor*

HUNTING LICENSE TEST?

Dear Editor: In New York State the Motor Vehicle Bureau requires a driver to take a test before his license is issued. We know all too w l that a motor vehicle improperly handled is capable of causing death and destruction. However, an imbecile, an idiot or any unqualified person for a nominal fee can acquire a hunting license without being investigated, then borrow his uncle's shotgun and go out in the woods blasting away at anything that moves.

Can't something be done to make a hunter qualified to handle a firearm before a hunting license is issued?

Bert Dobbertin, Rochester

• *We have had many letters like this, and the reasoning in all of them appears to be flawless. As a starter, there is at this writing a bill awaiting the Governor's signature which would require all persons under 17 years of age to obtain a certificate of qualification before his first hunting license is issued to him.—Editor*

LOST AND FOUND

Gentlemen: I am happy to advise that I received a communication today from a Mr. Norman C. Martin of Nunda, N. Y., one of your subscribers, relative to the desired information as to the Burgess pump gun. (Letters, Feb.-March issue).

Mr. Martin writes as follows: "I read your letter in *The Conservationist*. I also have a gun such as yours. It was my father's. When it needs repairs I take it to Ed Watson's Gun Shop, 117 State St., Rochester. Mr. Watson served his apprenticeship in the Burgess factory in Buffalo many years ago."

Maxmilian Grout, Brooklyn

• *Quite a clearing house we operate; some reader, somewhere, knows something about almost anything.—Editor*

TOO EARLY BIRDS?

Dear Sir: I would like to register a protest that has been brewing within me for several years. It relates to the opening of the bird season in this section of the State. For years I have religiously closed my office on opening day, taken my setter and gone seeking the few remaining specimens that linger in this county. I must confess that in spite of persistent and steady hunting in what used to be the finest cover, my bags have gotten leaner and leaner.

Now, I don't mind coming home skunked, because to my mind there is no finer way to spend a day than afield with a dog and gun; but I am getting fed up with spending days afield that seem better suited to wading a trout stream. In other words, our present dates for the bird season come about two or three weeks too soon, in my opinion.

Harold C. Rosenthal, M. D., Poughkeepsie

• *Admittedly, Lower Hudson and Long Island weather is warmer than elsewhere in the State, but we feel that if we were to further extend the zoning principle it would merely add to the confusion concerning opening dates. And then, who can forecast the fall weather? And in addition, the grouse season is long enough so that if a hunter wants to wait until cooler weather, he can.—Editor*

SHERIFF BOB DIXON

Dear Editor: In the Dec. '49-Jan. '50 *Conservationist* your article "Firearms for Minors" states—0 to 12 years, no weapons.

On television there is a program called "Sheriff Bob Dixon" from 6:00 to 6:30 p. m. During the first days of the month I had just received my copy of *The Conservationist* and turned on the program. The sheriff was showing children how to handle and shoot a rifle. My son, who is 11 years old, also was watching and he wanted to know why I do not allow him handling any arms and weapons. I have a .22, a 12 gauge and a Jeep Rifle I use for hunting and target practice; he is not allowed to even handle a shell.

Today I turned on the same station and Sheriff Bob Dixon had two children using a target rifle, shooting at target. Once again I am faced with the old question: "Those children are my age and they are allowed to shoot". Please advise.

John Clements, Astoria

• *According to the laws of this State, Sheriff Bob is way off base.—Editor*

ALBINISM IN DEER

Dear Sir: January 14th, with others, I watched three deer in a field, a buck and 2 does. One doe of normal size was white, except head and neck. This was near Lagrangeville, Dutchess Co. Have you received other reports of white deer?

Cornwall H. Hoag, Wingdale

• *Uncommon, but we get two or three similar reports every year.—Editor*

RABBITS WITH A .22

Dear Sirs: I would like to know if it is legal to hunt rabbits with a .22 rifle.

Alfred A. E. Preusch, Lancaster

• *In season, yes, but not in Westchester or on Long Island.—Editor*

SUNDAY HUNTING

Dear Sir: Last year was the first year I hunted deer. I was hunting in the Southern Tier of our State, around Ludlowville. To get to the point, why is it that deer can't be hunted on Sunday? With deer hunting not allowed on Sunday, the working man doesn't get much of a chance to get his buck, as he can't afford to lay off a couple days to hunt.

Edwin F. Broeker, Jr., Syracuse

• *The ban on Sunday deer hunting in that area was imposed at the request of local farmers and landowners—who apparently wanted a quiet Sunday.—Editor*

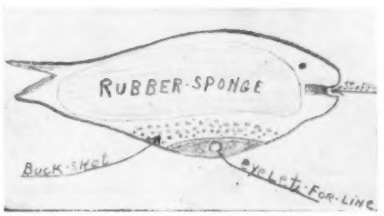
LAKE TROUT IN LAKE GEORGE

Dear Editor: I have done considerable lake trout fishing in Lake George in the years past and, I would like to ask a couple questions.

Is the species of trout caught in Lake George the same as is taken in other lakes of the State? Most of the trout I have caught in Lake George have a decided reddish or pink meat, whereas lake trout I have caught in other lakes are all white meat. Can you tell me the reason for this?

F. L. Grupe, Schenectady

• *In general, over the rather wide range of the lake trout, it is considered to be a single species. Only two subspecies have been named, one occurring in the deeper waters of Lake Superior and probably other Great Lakes, and the other from a single inland lake in northern Michigan. Flesh color, in trout at least, appears to be determined by the food consumed. Pink or red flesh is commonly present in trout (or salmon) which subsist mainly on crustacea or other foods with a high oil content. But trout are more or less individual in their feeding habits and this, we believe, explains variations in flesh color of fish taken from the same body of water.—C. W. Greene*



THE AGE OF INVENTION

Gentlemen: I have just read an article in Popular Mechanics about the destruction to our fish in the Great Lakes by the Sea Lamprey.

May I offer a suggestion which may prove the death to all these destructive creatures by feeding. A thin plastic skin fish, weighted with buckshot, and stuffed with rubber sponge filled with some sort of poison; the sponge can be pushed through the mouth of plastic fish into the hollow shell—then the poison injected into sponge, and a stopper put into mouth of plastic fish so it will keep tight. A hot glue can be used to repair the damage done by the Lamprey and plastic fish can be used over and over again.

B. S. Jablon, Bronx

SHEDDING ANTLERS (2)

Dear Editor: In reading "Letters to the Editor" in *The Conservationist*, I read "Shedding Antlers," by Henry M. Van Avery, Mayfield. I too, have seen a buck deer shed his horns. I was working some distance from the main highway, piling wood in a wood shed. Hearing a strange noise, like the sound of deer's horns coming together in a fight, I went outside of the building but couldn't see anything. Then I saw a movement behind a clump of cedars. At the same time a buck with one side of his antlers gone came from behind the clump of cedars. He seemed to have something wrong with his head, as if a bug were in his ear, because he held his head to one side. He came to about 25 yards from me and stopped. At the same time he shook his head like mad, and off came the last of the old buck's horns. After that he went on his way as if nothing had happened to him.

This happened with about a foot of snow on the ground. I went to the clump of cedars and found the other side to his antlers.

John L. Stowell, Jr., Severance

GIFT SUBSCRIPTIONS

Dear Sir: Like a lot of other people I think you have a fine, enlightening and entertaining magazine. Might I suggest that you work out a gift subscription system. I believe it would increase your circulation greatly and thereby increase, a little at least, the knowledge of conservation among our people.

Mitchell Kurman, Yonkers

• *Thanks. We are always glad to handle gift subscriptions, and have a regular card for that purpose. We send this card to your friend, announcing that he or she will receive the magazine as the gift of (Mitchell Kurman). So just send us your list (and money), and we'll do the rest.—Editor*

IN SCHOOL

Dear Sir: In the last issue of *The Conservationist* it was mentioned you were interested in hearing about other schools who were doing something for boys in the line of conservation.

Here at Ellenburg Central School, I inaugurated a new club this year known as the "Junior Fish, Game and Conservation Club" as part of our regular school program. The club has officers and meets every Monday for forty-five minutes. Members are Jr. High and High School students.

Francis H. Patnode, Pres.,
Ace Rod and Gun Club

TOSSES IN THE TOWEL

Dear Sirs: I wish to notify you that I don't want to receive any training for conservation work, or for any other type of work, because the lawyer code in radio music at Boston, Mass. has changed and I don't want conservation work, or any other type of work.

Sampson Reed, West Acton, Mass.

• *Every once in a while, something snaps.—Editor*

BIRD'S-EYE MAPLE

Dear Sir: When I was a child I remember my Grandfather talking about a bird's-eye maple forest near his home. In fact some fellows cut down lots of trees and built a barn of it.

Could you advise me where baby bird's-eye maple trees could be purchased for planting?

Mrs. W. H. Garrett, Cragsmoor

• *Bird's-eye maple is a freak of nature, and nobody knows when or where it's going to show up. According to Sargent's "Manual of the Trees of North America": "Accidental forms with the grain curled or contorted, known as curly maple and bird's-eye maple, are common and are highly prized in cabinet making." Some old-timers claim they can recognize trees of this type from standing timber, but most of us have to wait until the logs go through the mill.—Editor*

CUSTOMER ALWAYS RIGHT, ETC.

Dear Sir: Do Mr. Bulger and Mr. Strang both think the end of the Niagara River nearest Lake Erie is the mouth of the Niagara River? See page 27, *N.Y.S. Conservationist*, February-March 1950.

Mrs. Katheryne T. Whittemore, Buffalo

• *Can't seem to locate either of these gentlemen.—Editor*

UNCLE BILL KERST

Dear Editor: May I suggest that you inform your many readers of the passing of "Uncle Bill" Kerst of Sabael, New York. Old Bill, better known for his boat livery and cottages on Indian Lake, was wintering at his Osprey, Florida home, when death occurred on February 12.

No finer guide, friend or Adirondack Mountain story teller ever came out of our own native woods than "Uncle Bill" Kerst.

W. E. Aicbele, New York City

• *"Uncle Bill" was a guide-boat builder of no mean reputation and helped us in our research for the article (June-July 1948); also the pack-basket (August-September 1948).—R. B. Miller*

JUNIOR FOX TRAPPERS

Dear Sir: The members of the Wiscoy Valley Conservation Club are mighty proud of the achievements of two of their Junior members, Karl Chasey of Castile, who won the State Championship Junior Class, and Richard Terry, who tied for Third Honors in the Statewide Fox Trapping Contest for 1949. Chasey caught 42 foxes during the year; Terry, 37.

The contest was sponsored by the State College of Agriculture at Cornell University.

Art Robinson, Gainesville

INFECTED RABBITS

Dear Editor: On a recent hunting trip near Ithaca we shot several rabbits. Some of these rabbits had small, round, white particles in their intestines. Near the stomach these white balls were surrounded by a white jelly-like substance. Further down the intestines it seemed as if the white balls separated from the jelly-like substance, and only these balls were found. The livers in these rabbits looked healthy. Could you tell me if these rabbits are diseased?

Robert L. Kage, Endicott

• *Dog tapeworm larvae, generally harmless to the rabbits and having no affect on their edibility. See February-March '49 Conservationist. —Editor*

A GREAT GRANDMA

Dear Editor: We take *The Conservationist*; also have gotten 6 or 7 of our friends to do same. The best magazine—we look for it! My husband and I, we both hunt and fish together.

I wish more housewives got out—instead of cards and bar rails and talking about neighbors. Just from a grandma of 12 grandchildren and two great grandchildren.

Mrs. Wheeler Hunt, Schenevus

PENNSYLVANIA POLLUTION (2)

Dear Sir: In your esteemed periodical "The New York State Conservationist" of December 1949-January 1950, page 39, there appears a letter entitled, "Pennsylvania Pollution" from Mr. John N. Marshall, Bethlehem, Pa.

Mr. Marshall operates a milk handling plant which in October, 1946 was directed by the Sanitary Water Board to abate the discharge of milk wastes to waters of this Commonwealth by May, 1947, or to submit plans for the treatment of these waters so as to reduce the amount of pollution in accordance with standards previously set by the Board.

During the years 1947 and 1948 the matter of waste treatment was the source of several conferences between Mr. Marshall and representatives of the Bureau of Sanitary Engineering of this Department. Unfortunately, Mr. Marshall's attitude was not co-operative and the accomplishment of adequate treatment of milk wastes from his plant was long drawn out. A recent inspection of the plant, however, indicates that satisfactory sub-surface disposal facilities have been installed.

As far as I am aware, the work of the State of Pennsylvania in stream pollution abatement is farther advanced than in any other State in the Union. Our record speaks for itself and waste treatment works costing several hundred millions of dollars are in successful operation, under design or under construction throughout the Commonwealth. The resultant improvement in the quality of our streams is becoming more apparent every day.

In co-operation with committees representing the industries, this State is in the process of compiling acceptable effluent standards for the reduction and treatment of their waste waters. The Sanitary Water Board in December, 1947, for example, approved a set of effluent standards for milk plants prepared by the milk industry in co-operation with this Department.

It is not my intention to dwell in detail upon the statements in Mr. Marshall's letter. I shall deem it a favor, however, if you will call the attention of *The Conservationist* readers to the mis-information contained therein.

Norris W. Vaux, M. D.,
Secretary of Health, Chairman, Sanitary
Water Board, Commonwealth of Pennsylvania

A BID FOR BEAVERS

Dear Editor: I wonder if it would be possible to get a pair of beavers. A number of friends and I have a large tract of woods, 1,300 acres, with a number of streams on it. It's a hobby of ours, a game paradise, and we would like to have beavers to build dams in it. What do you think?

Philip W. Rose, Livingston Manor

• *We think you'd better contact your District Game Manager, Al Hall in Stamford. He might have live-trapped some beaver as a result of a complaint filed against them. But he wouldn't turn them over to you until he had inspected your property and satisfied himself that they would make good additions to it.—Editor*

PHOTO CREDITS

Pages 6, 23, Doug Finch; 12, Long Island Park Commission; 15, James R. Westman; 16, Karl Rissland; 18, Harry Kerr, Extension Service, Cornell; 19, U. S. Soil Conservation Service; 28, 29, U. S. Department of Agriculture; 30, Nick Drahos; 32, J. Fred Geist, Nyack; 33, W. J. Hamilton, Jr.; 34, Donald Jenks, Manlius; 35, A. H. Montgomery, Malone. (Pilot for aerial, Fred McLane.)

GUIDE TO HAPPIER FISHING

OF all the many satisfactory pleasures derived by Man from hunting and fishing, the pleasure of anticipation probably gets top ranking on nearly everybody's score card.

Man can spend a lot of time anticipating. While engaged in this pleasant pastime there usually builds up an increasing urge to taste the fruit. Not a little fruit like a huckleberry, but a big fruit like maybe a Hubbard squash. This is good for a healthy flow of adrenalin. Unfortunately, there seems to be a growing number of folks who go around needlessly stepping on other people's anticipations. The pain is getting to be almost unbearable.

Let's illustrate:

A duck hunter spent three months building the world's most splendiferous rig of decoys plus the world's most healthy backlog of anticipation.

When The Time arrived, he spent half the night spreading his wonderful new blocks properly in front of his brand new blind built right on the Spot of Spots, selected after many pleasant hours of secret scouting.

At last the magic moment! Out of the grenadine-flavored eastern sky he saw them coming—a half-dozen blacks boring straight and clean and high. Nearer. Nearer. The head duck dropped his neck to give the rig the once-over. Surely all must be well. They'd swing once, maybe twice, then take the elevator down. The hunter, shaking like the well-known hound dog sitting on a briar, watched them start the swing, still very high.

Boom-boom-boom!

The unsuspected neighbor shot needlessly, boneheadedly—a mile out of range. He poled his white rowboat (it always is) out through the reeds as the blacks, pouring on the coal, climbed up and away and out of the decoy builder's heart. The ducks had to climb hard to do that since that heart of course had dropped exceedingly low.

A typical fisherman spent the winter at his fly vise fashioning feathers into creations which gave him considerable pride plus pause to ponder the future productivity of each.

Again The Time.

Straight to a certain pool he drove all through the night. A certain pool where an enormous brown had curtained last summer's season by gaining the sanctum of the sycamore's roots.

The fisherman hurried to the rendezvous and sighed with truly enormous relief. Nobody was there. Slowly he worked his way toward The Place. The time was right. Some small fish were rising to an early hatch. Then, where the slow, deep current eased around a fern-thatched slab of granite, the big fish rose, exactly where he saw it rise a year ago. The fisherman opened his mouth and began to feed a little longer line. A little longer.

You knew, of course, that the Ignoramus now would gallop suddenly out of the shadows and right spang onto the granite directly over the fish and ask "Get anything yet, Bud?"

The guy who shoots at high-flying ducks or blunders into a pool ahead of another's fly needs to realize, particularly in this day, that the outdoors has become so crowded that he should take extreme care not to spoil, needlessly, another's anticipation of its fruits.

Many are the printed rules of common field courtesy — and safety — to guide the hunter. But guides for the deportment of the angler are notably absent. And there are more fishing anticipations lying around loose for the increasing hordes of thoughtless brethren to foul up, too.

The time is high, therefore, for some intensified effort to help retard what appears to be a general decay of courteous water ways. So, for a starter, let's set down a few primary paragraphs to guide the angler's general conduct not only to improve fishing relations but the fishing as well.

SOME RULES FOR HAPPIER FISHING

1. Never invade another's fishing area.

When meeting another angler, particularly in a trout stream, get out and walk far enough around him so as not to scare the fish for a reasonable distance ahead. If he is fishing a pool—stay away from the pool unless it's large enough to fish well beyond his range. Even so, it's good streamside relations to ask whether your own operations will interfere.

When moving in a boat keep reasonably clear of trolled lines or still fishermen. Never invade the extreme casting range of another.

2. Avoid unnecessary noise or other disturbance.

Don't splash or bang rocks needlessly when stream fishing. Don't throw things in the water, even after you've quit a pool. An oncoming angler may have to wait longer than necessary for things to quiet down. At least he'll *think* so. Don't put down the fish by walking close to a stream's bank unless you're fishing or unless you're sure it won't hinder the operations of another.

When running an outboard, be sure to cut down speed when necessarily passing close to fishermen.

3. Never lessen another's angling opportunity by damaging, needlessly, the fishes' room and board.

The destruction of such cover and food larders as overhanging branches (which may impede your own casting) by cutting; the removal of bankside trees and stumps, logs, rocks, beneficial aquatic vegetation, sod and the like definitely is bad news for the fish. Don't do it. Of course, never pollute either the water used by the fish or the landscape used by the human eyes. Never needlessly cause or contribute to muddy water or cause a waterway to become silted or otherwise choked. Don't obstruct the passage of fish.

4. Never take more fish than actually will be used.

Let usage, rather than laws, govern the maximum number and minimum size of the fish you take. Never unnecessarily injure a fish which may be released. Use a disgorger.

5. Never cause the introduction of an unwanted species.

Never dump bait pails. The careless or unwitting introduction of yellow perch bait has ruined many a trout water. Young carp often are very hard to distinguish from "shiners."

6. Tolerate the other angler's point of view or selection of gear.

7. Be careful with your hook.

No Joe is welcome in any boat, for example, if he shows an inclination toward side-swipe mayhem. Learn to cast without endangering others.

8. Never miss an opportunity to improve conditions for fish.

Taking ten minutes after the bankside lunch to plunge fresh-cut willow shoots well into the ground may pay amazing dividends during your own fishing lifetime. There are always ways to improve unproductive water. Often a man can do much in a few hours, especially to help control erosion or to establish cover—or even to improve the beauty of the stream. It's funny how fishing anticipation generally runs much higher on a pretty stream or at least one not unnecessarily messed up by Man.

—CLAYT SEAGEARS

THE INSIDE ON THE OUTDOORS

By Clayt Seagears

THAT JERK SOUNDS OFF LIKE HE OWNS THIS CRICK
FISH STOCKING TRUCK
COME ON, JOE - THEY'RE GONNA DUMP 'EM BELOW TH' NEXT BRIDGE
HEY- COME BACK AGAIN- YUH DIDN'T QUITE SWAMP US THAT TIME
MIND IF I GET OUT ON THAT LOG WITH YOU, MISTER? FORGOT MUH BOOTS
WATCHA BET- FISH OR ORANGE CRATE!
THOSE ARE TWO KINDS OF FISHERMEN. ONE IS GUTTIN' THAT HILLOW FOR HIS FIRE. THE OTHER IS CUTTIN SHOOTS TO PLANT ALONG THE BANKS
NEVER THOUGHT OF IT
LOOK WATER!
"AN' HOW'D YA LIKE ME TO HEAVE ME GARBAGE IN YOUR LIVIN' ROOM-"
NUTS- I'M TOO TIRED CHASIN' TH' OTHER ONE DOWN TO HERE
PHOOEY
WELL AIN'T THAT NICE. YOUSE KIN NOW SPEND ANUDDER DAY CARRYIN' 'EM BACK
LOOK YOU GUYS- I SPENT A WHOLE DAY HELPIN' MY KID MAKE THESE ROCK DAMS TO HELP TH' FISHIN'
AINT NO USE TO RUN, BUD, YA JUST GOTTA LEARN HOW TO DODGE
LOOK- WE'LL GIVE YOU A TROUT
PARDON ME- COULD I BE IN THE WAY?
YOU MEAN YOU REALLY GET MORE FISHIN' OUTA HAVIN' ALL THAT STUFF?
YA KNOW- I NEVER KNEW WHAT A DIFFERENCE A FEW TREES MAKE - IT USED TO BE REAL PURTY TOO
THAT'S FOR SURE - WHY IT TOOK ME TWO MONTHS JUST TO FIGGER OUT HOW TO HANG IT ALL ON
OOPS GIRLS- YA GOTTA BITE
COME OVER - WE'RE VERY SHORT OF WORMS
IT'S KINDA PEACEABLE LIKE RIGHT NOW THOUGH- THERE AIN'T NOBODY SHOOTIN' AT THEM BOTTLES
YEAH ALL KINDS OF JOES MAKE UP TODAY'S ARMY OF FISHERMEN- BUT ONLY ONE KIND MAKES GOOD FISHIN'- THE JOE THAT'S ALL THE TIME THINKIN' ABOUT THE BEST INTERESTS OF THE FISH-
WOW! - SAY, THOSE LOOK LIKE WHAT THAT FELLA CALLED A FAT-MOUTHED RAINBOW
NOW JUNIOR LET ME OUT JUST A LITTLE MORE AN' I C'N GET TH' BAIT RIGHT IN BY THE SNOOT OF TH' BIGGEST ONE
HOW ABOUT INCLUDING THE JOE WHO ALSO RESPECTS TH' RIGHTS OF OTHER FISHERMEN?
WHY DON'T YOU JUST DRAW A DEEP BREATH, POP AN' GET RIGHT DOWN IN WITH 'EM? IT'D SAVE AN AWFUL LOT OF WEAR AN' TEAR ON MY PANTS
CLAYT SEAGERS

YELLOW OR DOWNY LADY'S-SLIPPER
Cypripedium pubescens

Courtesy
N. Y. State Museum